WR-35	
Rev (9-1	1)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	12/07/2012
API#:	47-033-05555

Farm name: Hudkins, R.D.	Operator W	ell No.:_Hudkins	- 21 IA4	
LOCATION: Elevation: 1174 GL		Mount Clare		
District: Grant	_			
Latitude: 2.840 Feet South of 39 De	County: H			
Longitude 5.127 Feet West of 80 De		n. 00 Se	ec.	
Company: Petroleum Development Corporation				
Address: 120 Genesis Boulevard	Casing & Tubing	Used in drilling	Left in well	Cement fill
Bridgeport, WV 26330	20"	27'	27'	up Cu. Ft.
Agent: Bob Williamson	13 3/8"	462'	462'	Grout to Surface
Inspector: Tristan Jenkins	9 5/8"	2686'	 	466
Date Permit Issued: 06/15/2011	5 1/2"	11,856'	2686'	1135
Date Well Work Commenced: 06/29/2011		11,000	11,856'	3154
Date Well Work Completed: 10/09/2012				
Verbal Plugging: N/A		 		
Date Permission granted on:	 			-
Rotary Cable Rig				
Total Vertical Depth (ft): 7224'				
Total Measured Depth (ft): 11,893'				
Fresh Water Depth (ft.): 17', 142'				
Salt Water Depth (ft.): 1410'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported				
Void(s) encountered (N/Y) Depth(s) None				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Shale	ne places in the l			
		e additional dat 221'	a on separate she	eet)
Gas: Initial open flow N/A MCF/d Oil: Initial open flo	owBbl	/d		
Time of open flow between initial and final tests720		d	P	RECEIVED
Static rock Pressure 1200 psig (surface pressure) after			Offic	e of Oil & Gas
Second producing formation Pay zon			J	AN 2 9 2013
Gas: Initial open flow MCF/d Oil: Initial open flo	owBbl/	'd	1254	_
Final open flow MCF/d Final open flow	Bbl/c	i	- WAE	Department of
Time of open flow between initial and final tests	Hours erHours		Environn	nental Protect
rtify under penalty of law that I have personally examined as	ul am familias	ide des inte	dan	
and salve on my inequity of mose mary	duals immediate	an me intormat ly responsible t	ion submitted or or obtaining the	n this document and
the information is true, accurate, and complete.		, responsible t	an ammung me	attenuation i believe
ER/Mai		. A A.A.		
Signature		12/07/2 Da		

Were Electrical, Mechanical or Geo	ophysical logs recorded and the	voro editings (eaught during drilling? Yes XX No
OH Mud Log from 5950'- 11,893'. Baker Directio	onal GR from 2705' - 11,893'.	If yes, plea	use list Sonic Scanner/CBL/GR/CCLfrom 11,800-5450;
COAL ENCOUNTERED BY TH	E WELLBORE FROM SURFA	G: 1). DET/ IC. 2). THE V BOTTOMS CE TO TOTA	AILS OF PERFORATED INTERVALS, WELL LOG WHICH IS A SYSTEMATIC OF ALL FORMATIONS, INCLUDING AL DEPTH.
Perforated Intervals, Fracturing, or S	Stimulating:		
Perforated interval 7	1805 Ft - 1178 SL	7/1100	shets) fraced 12 stage of Slickwater carrying of 40/70 sand, and
using 285 hbls 15	-0/ 1/1/1007	1 (480)	shots) fraced 12 stag
992,500 /bs of 100-	mech soul and 105 c	100 66/3	of Slickwater carry
20,200 165 of 30/	1757 SANA, 3,764	400 165	of 40/70 sand, and
30/	50 SANA.		
Plug Back Details Including Plug Typ			
Fing Back Details Including Plug Typ	e and Depth(s): N/A		
——————————————————————————————————————			
	IV/A		
e the Type	IWA		
Formations Encountered:	1977		
	Top Depth		Bottom Depth
Formations Encountered:	1977	/	Bottom Depth
Formations Encountered: Surface:	Top Depth	/	
Formations Encountered: Surface: Little Lime	Top Depth 1476	1503	(All depths TVD except MD-TD)
Formations Encountered:	Top Depth 1476 1520	1698	
Formations Encountered: Surface: Little Lime Big Lime	Top Depth 1476 1520 1982	1698 2013	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'.
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot	Top Depth 1476 1520 1982 2050	1698 2013 2101	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'.
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray	Top Depth 1476 1520 1982 2050 2149	1698 2013 2101 2171	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. RECEIVED Office of Oil & Gas
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray th SS	Top Depth 1476 1520 1982 2050 2149 2280	1698 2013 2101 2171 2342	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'.
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray th SS th Sand	Top Depth 1476 1520 1982 2050 2149 2280 2356	1698 2013 2101 2171 2342 2383	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. PECEIVED Office of Oil & Gas JAN 2 9 2013
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray th SS th Sand ayard	Top Depth 1476 1520 1982 2050 2149 2280 2356 2468	1698 2013 2101 2171 2342 2383 2489	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. RECEIVED Office of Oil & Gas JAN 2 9 2013 WV Department of
Formations Encountered: Surface: Little Lime Big Lime Gantz Lifty Foot Fordon Stray th SS th Sand ayard enson	Top Depth 1476 1520 1982 2050 2149 2280 2356 2468 4459	1698 2013 2101 2171 2342 2383 2489	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. PECEIVED Office of Oil & Gas JAN 2 9 2013 WV Department of Environmental Protecti
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray th SS th Sand Eayard Fenson **All Depths shown above are f	Top Depth 1476 1520 1982 2050 2149 2280 2356 2468 4459 from the pilot hole log well# 4	1698 2013 2101 2171 2342 2383 2489	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. PECEIVED Office of Oil & Gas JAN 2 9 2013 WV Department of Environmental Protecti
Eormations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray th SS th Sand sayard senson **All Depths shown above are f	Top Depth 1476 1520 1982 2050 2149 2280 2356 2468 4459	1698 2013 2101 2171 2342 2383 2489	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. RECEIVED Office of Oil & Gas JAN 2 9 2013 WV Department of
Formations Encountered: Surface: Little Lime Big Lime Gantz Fifty Foot Gordon Stray Ith SS Ith Sand Bayard Benson	Top Depth 1476 1520 1982 2050 2149 2280 2356 2468 4459 from the pilot hole log well# 4	1698 2013 2101 2171 2342 2383 2489 4505	(All depths TVD except MD-TD) Show Oil, Gas & Water @ 1573'. PECEIVED Office of Oil & Gas JAN 2 9 2013 WV Department of Environmental Protecti

DATE: 1/15/13

API#: 47-035-03007

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator's Report of Well Work

Farm name:	Todd and	i Christopher Van Fosson	Оре	erator Well No.:_	HR 470	
LOCATION:	Elevation:	669'	Qua	adrangle:	_Liverpool WV	7.5'
Diet	rict:	Ravenswood	Cor	infv:	Jackson	
inte. T	mde: 4497'	_Ravenswood _Feet South of 38 Deg	7. 57 N	Min. 30 Sec.		
Lone	ritude 3102'	Feet West of81]	Deg. 35 M	in. 00 Sec.		
Long	51.4.00_5102					
Company:l	Hard Rock E	Exploration				
			Casing &	Used in	Left in well	Cement fill
			Tubing	drilling		up Cu. Ft.
Address: 1244	Martins Br	anch Road				
	leston WV, 2		20"	19'	19'	N/A
Agent: Marc			13 3/8"	83'	83'	73cuft CTS
Inspector: Jar			9 5/8"	633'	633'	300 ft3 CTS
Date Permit L			7"	2414'	2414	517 ft3 CTS
Date Well Wo		ced: 10/10/12	4.5"	7905'	7905	115 ft3
Date Well Wo						
Verbal Pluggi			Gamma Log	from (3470'MD	(kop) - 4460'M	D, 4103(Land)
Date Permissi		m·		og from (3450' –		<u> </u>
Rotary x		Rig	1 2 2 3 2 2			
Total Denth	(foot): 70643	TMD, 4103'TVD		<u> </u>	T	
Fresh Water						
Presii water	Deptii (1c.).	30 , 140			REC	EIVED
Gald Window Y) 4h (64) 1 1	280' (wat/crude), 1650',			Ossigo of	Oll & Gas
	лерш (11.): 12	cou (warefude), 1030 ,			Ollica Cu	1011 X 0.000
1700'						0 2012
Y 1 h-im	nine di benin	NINA N	 		1 1 1	0 2013
Is coal being to	mneu m area	N/A	 			
Coar Deptils (<u> </u>	NA	ı	1	' W/V Den	artment of
OPEN FLC	ATA W			-	444 DOP	ntal Protection
OFENTIA	WDAIA				Wiloune	ilai i rotos
Produc	ing formatic	onLower Huron_Sha	ale Pay zon	ne depth (ft) 4	432'MD- 7964	'MD
110000	me rorman	<u></u>	<u></u> ,	4	072'TVD - 4	103' TVD
Con To	itial anan fl	ow_200 MCF/d Oil: Ir	nitial open flo			
Gas. II	ingroben n	>1.5MMCF/d	Final open	flow	Bbl/d	
riii	ar oben now	ow between initial and	final tests		ours	
1111	ne or open m	ow between minar and	matro com		Hours	
Static	rock Pressur	re1240psig (surface press	me) alter	_110ш5	
_		• •	70	damah (A)		
	d producing			one depth (ft)_	DL1/J	
	nitial open fl	lowMCF/d Oil	initial open	flow	D01/U	
Fin	al open flow	MCF/d I	inal open the	wF	βονα	
Tin	ne of open fl	low between initial and	final tests	Hou	IS	
Static	rock Pressur	epsig (surfa	ce pressure)	afterHo	ours	
እነረጣም. ረን	TDACTOCE	THIS FORM PUT THE	FOI LOWING	3: 1). DETAILS	OF PERFORAT	ED
NOIE: Of	I C ED ACTI	IRING OR STIMULATI	NG PHYSIC	AL CHANGE	ETC. 2). THE W	ELL
INTERVA	COUNTRY CO	STEMATIC DETAILED	AFOI OGIC	AL RECORD O	F ALL FORMA	TIONS,
TOO WHI	ACCUST D	NCOUNTERED BY THE	WELLBORE		-	•
		Ames The		-		
ופ		Fresident	///			
		/2/20/2013				

Top:	Bottom:	35
0	1633	
1685	1890	
1890	1932	
1932	2000	
2000	2330	
2330	2350	
2350	4103	
4030	4103	
	0 1685 1890 1932 2000 2330 2350	0 1633 1685 1890 1890 1932 1932 2000 2000 2330 2330 2350 2350 4103

All depths shown As TVD

10/20/12 Run casing with 17 stg Peak mechanical packer system

10/21/12 Finish running casing at 12:00pm to depth of 7905'set at 7911'kb. MIRU Nabors Packer Set Crew. Drop balls for circ shoe and pump N2 to pressure up to 3000 psi. Gas rate on 7" shut off while pumping. Shut down at 3000 psi and hold pressure for 20-30 min to ensure packer operation. Continue pumping and bring pressure up to 4020 psi to open shoe.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

<u>Stage</u>	<u>Packer</u>	<u>Sleeve</u>	Sieeve ID	<u>Ball</u>	
1	7735.78	7911.33	P/O Shoe	N/A	
2	7515.95	7607.1	1.156	1.25	
3	7296.12	7387.27	1.281	1.375	,
4	7117.89	7209.14	1.406	1.5	
5	6898.06	6989.21	1.531	1.625	
6	6678.23	6769.38	1.656	1.75	BEAGNER
7	6458.4	6549.55	1.781	1.875	RECEIVED
8	6238.57	6329.72	1.906	2	Office of Oil & Gas
9	6018.74	6109.89	2.031	2.125	
10	5798.91	5890.06	2.156	2.25	FEB 2 0 2013
11	5537.38	5670.23	2.281	2.375	
12	5317.45	5408.7	2.406	2.5	WV Department of Environmental Protection
13	5095.02	5188.77	2.531	2.75	WW Department Protection
14	4872.59	4963.74	2.781	3	Environmental
15	4652.66	4743.91	3.031	3.25	
16	4432.63	4523.78	3.281	3.5	
17	4213	4304.15	3.531	3.75 `	
	2714.85				

12/10/12. MIRU Nabors Cmt Crew. Blow down 7" casing (75psi). RU and dump squeeze with 20 bbls type 1 3% CaCl mixed at 15.2ppg. Follow with 2 bbl water. RDMO Nabors – finish at 6:30-7:00pm.

12/11/12 MIRU Nabors. Pressure test iron. Start pumping at 7:10am at half rate on Stg 1. Pump 430 Mcf at 42k scf/min at 5500 psi. Shut down and change isolation valve. Resume pumping on Stg 1. Open wellhead at 2500 psi. Pump total of 1MM scf N2. Shut down and drop 1.25" ball for Stg 2. Start pumping ball to sleeve at 20k scf/min and land ball at 170k scf at 3500 psi. Up rate and open sleeve at 4292 psi. Up rate to 53k scf/min and pump total of 1MM scf N2. Shut down and drop 1.375" ball for Stg 3. Pump ball to seat- open sleeve and and pump total of 1MMscf N2 at rate dictated by pressure. Repeat process for Stg 4 – Stg 16. Did not Frac stage 17.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
Max P	5530	5588	5755	5758	5618	5901	5947	6033
Avg P	4992	5295	5595	5657	5548	5451	5816	5883
Max R	57.6	53.6	52.4	46.7	44.7	45.3	48.4	41.0
Avg R	51.4	45.1	46.1	43.2	43.7	45.0	42.3	34.6
5 Min		2855	3299	N/A	N/A	3132	2794	2813
								1
	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16
Max P	Stage 9 5867	Stage 10 5604	Stage 11 5806	Stage 12 5961	Stage 13 5950	Stage 14 4986	Stage 15 5585	Stage 16 5960
Max P Avg P								
Avg P	5867	5604	5806	5961	5950	4986	5585	5960
Max P Avg P Max R Avg R	5867 5606	5604 5014	5806 5498	5961 5835	5950 5796	4986 4923	5585 5489	5960 5862

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FEB 2 0 2013

API#

State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

arm Name

W.W. McDonald Land Company

ocation Elevation

istrict

Unknown

atitude

Degree Minutes Seconds

ongitude West Degree Minutes Seconds

ompany

EQT Plaza

Suite 1700

625 Liberty Avenue Pittsburgh, Pa 15222

Agent

Cecil Ray

Inspector

Bill Nehr

'ermit Issued

3/23/2009

/eli Work Commenced

6/17/2010

lell Work Completed

8/27/2010

erbal Plugging

otary Rig

Type

Rotary Rig

otal DepthTVD: 4025

From

MD: 8.132.00

Well Number

512373

QUAD

Man

County

Logan,WV

W

Longitude

37.87187

-81.87187 Latitude

Casing &Tubing Size	<u>Used In</u> <u>Drilling</u>	<u>Left in</u> <u>Well</u>	Cement Cubic FT
18	22.00	22.00	
13 3/8	63.00	63.00	
9 5/8	408.00	408.00	206.50
7	2087.00	2,087.00	464.00
4 1/2	8084.00	8,084.00	

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FEB 2 1 2013

WV Department of Environmental Protection

ft.

ft.

Type

From

89.00

88.00 ft. -265.00 ft. -266.00

Fresh Water 88.00 Fresh Water 130.00 Salt Water 449.00 Salt Water 950.00

Producting Formation

Gas: Initial Open

1163

Flow

Final Open Flow

5054

Static Rock Pressure

640

NOTE: On back of this form put the following

1) Details of Perforated intervals, fracturing or stimulating, physical change,etc.
2) The well log, a systematic detailed geologfical record of all formations including coal encountered in the well bore

For EQT Production Company

Gas Tests

Formation Name	<u>Top</u>	Bottom	Thickness	Depth Ga	s Comments
OVERBURDEN	0.00	63.00	63.00	2,025.00	0 Trace
SANDSTONE	63.00	88.00	25.00	2,350.00	0 Trace
COAL	88.00	89.00	1.00	2,600.00	0 Trace
SANDSTONE	89.00	125.00	36.00	2,975.00	0 Trace
SANDY SHALE	125.00	265.00	140.00	3,381.00	0 Trace
COAL	265.00	266.00	1.00	4,366.00	60 2/10ths thru 2"
SANDSTONE	266.00	285.00	19.00	6,060.00	407 93/10ths thru 2"
SANDY SHALE	285.00	300.00	15.00	6,347.00	307 53/10ths thru 2"
SANDSTONE	300.00	330.00	30.00	7,676.00	1838
SANDY SHALE	330.00	380.00	50.00	8,132.00	1163 48/10ths on 4"
3ANDSTONE	380.00	425.00	45.00		
SANDY SHALE	425.00	764.00	339.00		
BALT SAND	764.70	1,267.00	502.30		
JPPER MAXTON SAND	1,592.00	1,945.00	353.00		
.OWER MAXTON SAND	1,945.00	2,025.00	80.00		
.ITTLE LIME	2,025.00	2,066.00	41.00		RECEIVED
3IG LIME	2,082.00	2,317.00	235.00		Office of Oil & Gas
WEIR SAND	2,440.73	2,568.00	127.27		ome of off & Gas
BUNBURY	2,881.00	2,919.00	38.00		FEB 2 1 2013
BEREA SAND	2,919.00	2,946.00	27.00		•
JPPER DEVONIAN	2,943.69				WV Department of Environments' Protection
JPPER HURON SHALE	2,947.00	3,970.00	1,023.00		Nironmental Death
3ORDON SAND	3,292.03	3,975.00	682.97		- Araction
OWER HURON SHALE	3,969.00	4,381.00	412.00		
. HURON SILTSTONE	3,998.00	4,034.00	36.00		
IAVA SHALE	4,381.00	4,520.00	139.00		
NGOLA SHALE	4,520.00	4,757.00	237.00		
RHINESTREET SHALE	4,757.00				

Questions regarding formations can be directed to Jonette Speranzo. Jsperanzo@eqt.com

	anuloision /	Medument	Well	lireatment Summary
Stage	Formation LOWER HURON SILT	Frac Type N²		45-02228
Date 8/25/2010	From / To 7918 - 8084	# of perfs	BD Press 4,896.00	ATP Psi SIP Detail 5,877.00 5 Min:
Avg Rate 104,348.00	Max Press PSI 6,193.00	ISIP	Frac Gradient	10 Min: 15 Min:
Sand Proppant	Water-bbl 0.00	SCF N2 1,005,046.00	Acid-Gal	
Stage 2	Formation LOWER HURON SILT	Frac Type N²		
Date 8/25/2010	From / To 7685 - 7918	# of perfs	BD Press 4,123.00	ATP Psi SIP Detail 5,935.00 5 Min:
Avg Rate 107,744.00	Max Press PSI 6,109.00	ISIP	Frac Gradient	10 Min: RECEIVED 15 Min: RECEIVED 15 Office of Oil & Gas
Sand Proppant	Water-bbl 7.20	SCF N2 1,001,301.00	Acid-Gal	FEB 2 1 2013
Stage	Water-bbl 7.20		Acid-Gal	
Stage	Water-bbl 7.20 Formation LOWER HURON SILT From / To	1,001,301.00 Frac Type	Acid-Gal BD Press 3,721.00	FEB 2 1 2013 WV Department of
Stage 3	Water-bbl 7.20 Formation LOWER HURON SILT From / To 7452 - 7685 Max Press PSI	1,001,301.00 Frac Type N² # of perfs	BD Press	WV Department of Environmental Protection ATP Psi SIP Detail

Stage	Formation	Frac Type	Well	lleatment	Summany
4	LOWER HURON SILT	N²			45.02228
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	7175 - 7452		3,859.00	5,315.00	5 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:
101,812.00	5,529.00		0.943		13 Will.
Sand Drawner	101-1				
Sand Proppant	Water-bbl 6.10	SCF N2	Acid-Gal		
	0.10	1,007,905.00			
Stage	Formation	Frac Type			
5	LOWER HURON SILT	N²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	6943 - 7175		3,645.00	4,955.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: RECEIVED
106,414.00	5,050.00				Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		FEB 2 1 2013
#14.02 kH	6.30	1,003,874.00			Department of
Stage	Formation	Frac Type			Environmental Protection
6	LOWER HURON SILT	N²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	6668 - 6943		3,791.00	4,750.00	5 Min:
					40.10
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:
105,570.00	4,829.00	1011	. Tab Gradiont		TO MILL
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.20	1,006,300.00			

Stage	Formation	Frac Type	well	mesiment	Summary
7	LOWER HURON SILT	N ²			45-02228
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	6435 - 6668		3,187.00	4,690.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
107,410.00	4,797.00	2,235.00	0.642		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.20	1,001,665.00			
Stage	Formation	Frac Type			
8	LOWER HURON SILT	N ²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	6162 - 6435		3,066.00	5,152.00	5 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:
106,192.00	5,306.00	2,645.00	0.76		
Sand Proppant		SCF N2	Acid-Gal		RECEIVED Office of Oil & Gas
Cana i Toppani	6.30	1,007,339.00	Acid-Gai		Office of Off & Gas
		WEST TOWN	a sales and the	£ 7.5 ()	FEB 2 1 2013
Stage	Formation	Frac Type			MAN/ Dames
9	LOWER HURON SILT	N²			WV Department of Environmental Protection
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	5928 - 6162		3,320.00	4,656.00	5 Min:
					40.10
Avg Rate	Max Press PSI	ISID	Frac Gradient		10 Min: 15 Min:
108,533.00		IOIP	i iau Giaulent		10 IVIII).
100,333.00	4,733.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.20	1,005,057.00			

Stage Formation Frac Type 10 LOWER HURON SILT N² Date From / To # of perfs BD Press ATP Psi SIP Detail 8/25/2010 5695 - 5928 3,479.00 4,894.00 5 Min:	2228
10 LOWER HURON N ² SILT Date From / To # of perfs BD Press ATP Psi SIP Detail	2228
O/OS/DOLD TOOK TOOK TOOK TOOK TOOK TOOK TOOK TOO	
0/05/0040	
Avg Rate Max Press PSI ISIP Frac Gradient 15 Min:	
107,783.00 5,101.00 2,531.00 0.728	
Sand Proppant Water-bbl SCF N2 Acid-Gal	
5.90 1,005,519.00	
Stage Formation Frac Type	
11 LOWER HURON N ² SILT	
Date From / To # of perfs BD Press ATP Psi SIP Detail	
8/25/2010 5419 - 5695 3,386.00 4,550.00 5 Min:	
40 Mins	
Avg Rate Max Press PSI ISIP Frac Gradient 15 Min:	
107,764.00 4,551.00 RECEIVE	
Sand Proppant Water-bbl SCF N2 Acid-Gal	k Gas
6.00 1,006,729.00 FEB 2 1 20	13
Stage Formation Frac Type	√
Stage Formation Frac Type WV Departme 12 LOWER HURON N² Environmental Pi SILT	ent of otection
Date From / To # of perfs BD Press ATP Psi SIP Detail	
8/25/2010 5190 - 5419 3,465.00 4,463.00 5 Min:	
Avg Rate Max Press PSI ISIP Frac Gradient 15 Min:	
106,334.00 4,526.00	
Sand Proppant Water-bbl SCF N2 Acid-Gal	
6.20 1,004,263.00	

Stage	Formation LOWER HURON	Frac Type	Well	Treament	Summay
13	SILT	IV-			45.02228
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/25/2010	4914 - 5190		3,273.00	4,497.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
107,529.00	4,559.00	2,400.00	0.688		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
X.49. (0.9)	6.00	1,004,579.00			
Stage	Formation	Frac Type			
14	LOWER HURON SILT	N²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/26/2010	4680 - 4914		3,235.00	4,335.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
108,079.00	4,390.00				RECEIVED
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		Office of Oil & Gas
	6.00	1,005,695.00			FEB 2 1 2013
Stage	Formation	Frac Type			WV Department of
15	LOWER HURON SILT	N²		to	Environmental Protection
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/26/2010	4407 - 4680		3,462.00		5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
105,743.00	4,200.00			3	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
Division with the second secon	6.20	1,003,686.00	SDIP Charles and a local department of the charles and the cha		

	ประชาการเกลา อาษาการเกลา	remaining in	well	meannem	Similiarità
Stage	Formation	Frac Type			
16	LOWER HURON SILT	N²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/26/2010	4173 - 4407		3,329.00		5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
106,660.00	4,224.00	2,150.00	0.619		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.10	1,005,977.00	SC 200 AND SHARES AND SHARES		

45.02228

RECEIVED
Office of Oil & Gas

FEB 2 1 2013

Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

45-02305

arm Name

Cole & Crane Real Estate Trust

.ocation Elevation

District

Unknown

_atitude 11940 Degree 37 Minutes 47 Seconds 30

Longitude 1830 East Degree 82 Minutes 0 Seconds 0

Company

EQT Plaza

Suite 1700

625 Liberty Avenue Pittsburgh, Pa 15222

Agent

Cecil Ray

Inspector

Permit Issued

2/29/2008

Vell Work Commenced

5/17/2010

Veli Work Completed

8/30/2010

/erbal Plugging

Rotary Rig

Rotary Rig

Total Depth TVD: 4065

7,519.00

Well Number

QUAD

511884 Holden

County

Logan,WV

W

37.75882 Longitude

Latitude -82.00636

Used In **Drilling**

Left in **Cement Cubic** Well EI

283.20

&Tubing Size

Casing

13 3/8 90.00

90.00

9 5/8 636.00 636.00

2141.00

2,141.00 571.10

4 1/2

Type

Coal

Coal

From

150.00 ft. -

560.00 ft. -

152.00

562.00

7

7482.00 7,482.00

> RECEIVED Office of Oil & Gas

> > FEB 2 1 2013

WV Department of **Environmental Protection**

ft.

ft.

<u>Type</u>

From

Fresh Water 150.00

Salt Water 1,440,00

Salt Water 2,000.00

Producting Formation

Gas: Initial Open

119

Flow

Final Open Flow

882

Static Rock Pressure

830

NOTE: On back of this form put the following

1) Details of Perforated intervals, fracturing or stimulating, physical change,etc.

2) The well log, a systematic detailed geological record of all formations including coal encountered in the well bore

For EQT Production Company

Gas Tests

cormation Name	Top	<u>Bottom</u>	<u>Thickness</u>	Depth G	as	Comments
SAND AND SHALE	0.00	150.00	150.00	2,190.00	0	
COAL	150.00	152.00	2.00	3,442.00	1350	
SAND AND SHALE	152.00	560.00	408.00	3,442.00	2090	
COAL	560.00	562.00	2.00	3,442.00	179	18/10's thru 2"
SAND AND SHALE	562.00	831.00	269.00	4,437.00	207	24/10's Thru 2"
SALT SAND	831.00	1,520.00	689.00	5,672.00	189	20/10's thru 2"
JPPER MAXTON SAND	1,613.00	1,695.00	82.00	6,630.00	133	10/10's thru 2"
AIDDLE MAXTON SAND	1,896.00	1,925.00	29.00	7,519.00	119	8/10's thru 2"
OWER MAXTON SAND	1,996.00	2,074.00	78.00			
JITTLE LIME	2,074.00	2,124.00	50.00			
PENCIL CAVE SHALE	2,124.00	2,135.00	11.00			
3IG LIME	2,135.00	2,413.00	278.00			
VEIR SAND	2,517.00	2,582.00	65.00			
SUNBURY	2,905.00	2,937.00	32.00			FOR FOR GAMEUN (TEPET)
3EREA SAND	2,937.00	2,959.00	22.00			RECEIVED
JPPER DEVONIAN	2,942.27					Office of Oll & Gas
LOWER HURON	3,953.00	4,299.00	346.00			EED & 1 2012
JAVA	4,299.00					FEB 2 1 2013

Questions regarding formations can be directed to Jonette Speranzo.

Jsperanzo@eqt.com

CONTACTOR	जगाग्रासम्बद्धाः <i>।</i>	สกับสามาสามา	WYSUL.	aresini)(Sur	Summary
Stage	Formation LOWER HURON	Frac Type N²			45-02305
Date 8/19/2010	From / To 7319 - 7519	# of perfs	BD Press 4,811.00		SIP Detail 5 Min:
Avg Rate 98,976.00	Max Press PSI 6,299.00	ISIP	Frac Gradient		10 Min: 15 Min:
Sand Proppant	Water-bbl	SCF N2 1,002,092.00	Acid-Gal		-
Stage 2	Formation LOWER HURON	Frac Type N²			
Date 8/19/2010	From / To 7033 - 7319	# of perfs	BD Press 3,904.00	ATP Psi 5,945.00	SIP Detail 5 Min:
Avg Rate 102,573.00	Max Press PSI 6,003.00	ISIP	Frac Gradient		10 Min: RECEIVED 15 Min: Office of Oil & Gas
Sand Proppant	Water-bbl 7.10	SCF N2 1,003,421.00	Acid-Gal		FEB 2 1.2013 WV Department of
Stage 3	Formation LOWER HURON	Frac Type N²			Environmental Protection
Date 8/19/2010		# of perfs	BD Press 3,861.00	ATP Psi 5,742.00	SIP Detail 5 Min:
Avg Rate 104,760.00		ISIP	Frac Gradient		10 Min: 15 Min:
Sand Proppant	Water-bbl 5.30	SCF N2 1,002,898.00			

		- Arrest Shirt and the second	WIEL	шеелием	egaliulii).	TIZ
Stage	Formation	Frac Type				
4	LOWER HURON	N ²	3			45-02305
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/19/2010	6507 - 6792		3,596.00	5,419.00	5 Min:	
					IO Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient	1	15 Min:	
103,353.00	5,534.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.70	1,003,655.00	, , , , , , , , , , , , , , , , , , , ,	1		
Stage	Formation	Frac Type				
5	LOWER HURON	N ²				
Date	From / To	# of perfs	BD Press	ATD Dail	D D -4-11	
8/19/2010	6221 - 6507	# or peris	3,649.00		SIP Detail 5 Min:	
			3,232.02	5,0 10.00		
Avg Rate	Max Press PSI	ISID	Frac Gradient		10 Min: 15 Min:	
105,667.00	5,683.00	3,691.00	Frac Gradient			RECEIVED Office of Oil & Gas
S1 S					(Office of Off 2 cree
Sand Proppant	Water-bbl 5.40	SCF N2 1,004,707.00	Acid-Gal			FEB 2 1 2013
					113-1111	W Department of
Stage 6	Formation LOWER HURON	Frac Type N ²			Env	ironmental Protection
		IN .				
Date	From / To	# of perfs	BD Press	ATP Psi		
8/19/2010	5980 - 6221		3,690.00	5,498.00	5 Min:	
					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
105,092.00	5,587.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			

6.50

1,002,328.00

		ะงานสังสาทาสาน		Trestruent	Summe	NoV.
Stage	Formation	Frac Type				
7	LOWER HURON	N ²				45.02305
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/19/2010	5695 - 5980		3,701.00	5,415.00	5 Min:	
*					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
104,916.00	5,444.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
Nil-ter market and a second se	5.60	1,004,067.00				
Stage	Formation	Frac Type				
8	LOWER HURON	N ²			i	
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/19/2010	5409 - 5695		3,738.00	5,301.00	5 Min:	
					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
102,628.00	5,355.00					RECEIVED
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			Office of Oil & Gas
W	5.40	1,002,652.00				FEB 2 1 2013
Stage	Formation	Frac Type				ILD ZI ZOIG
9	LOWER HURON	N ²				WV Department of
Date	From / To	# of perfs	BD Press	ATP Pei	SIP Detai	vironmental Protection
8/19/2010	5168 - 5409		3,645.00	5,245.00	5 Min:	'
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:	
105,140.00	5,279.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		•	
	5.90	1,004,821.00				,

	ञ्चत्रस्यक्षित्वसञ्जा	Area remainement	W.AU	intestiting in	Summary
Stage	Formation	Frac Type			
10	LOWER HURON	N ²		1	45.02305
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/19/2010	4883 - 5168		3,653.00	5,059.00	5 Min:
				.31	
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
104,167.00	5,180.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
Cana i roppani	5.30	1,002,532.00	Acid-Gai		
	3.30	1,002,532.00			
Stage	Formation	Frac Type			
11	LOWER HURON	N ²			
Dete	F=== 1.7-	# -55-	DD D	A T D D .	
Date	From / To	# of perfs	BD Press	254	SIP Detail
8/19/2010	4598 - 4883		3,557.00	4,851.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient	100	15 Min:
103,129.00	4,879.00				
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			F1	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.30	1,002,058.00			RECEIVED
Stage	Formation	Frac Type			Office of Oil & Gas
	LOWER HURON	N ²			FEB 2 1 2013
	20112/11/01/01				1 ED Z 1 2013
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail WV Department of
8/19/2010	4356 - 4598		3,632.00	5,164.00	5 Min: Environmental devication
Ave Dete	Max Press PSI	icip	Fuer Cuedient		10 Min:
Avg Rate		1511	Frac Gradient		15 Min:
103,911.00	5,316.00				-
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
5 5	2.70	1,002,473.00			

			uucu	TOO STATE SAILUMENY
Stage	Formation	Frac Type		
13	LOWER HURON	N ²		
Date	From / To	# of perfs	BD Press	ATP Psi SIP Detail
8/19/2010	4071 - 4356		3,426.00	4,602.00 5 Min:
				80
				10 Min:
Avg Rate	Max Press PSI		Frac Gradient	15 Min:
102,558.00	4,629.00	2,985.00		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal	
oana i roppani	5.50	1,002,891.00	Acid-Gai	
	5.50	1,002,001.00		200
Stage	Formation	Erac Type		
Stage	Formation	Frac Type		
Stage 14	Formation BIG LIME	Frac Type N²		
		999999	BD Press	ATP Psi SIP Detail
14	BIG LIME	N^2	BD Press 5,949.00	
14 Date	BIG LIME From / To	N^2		ATP Psi SIP Detail
14 Date	BIG LIME From / To	N^2		ATP Psi SIP Detail
14 Date	BIG LIME From / To	N² # of perfs		ATP Psi SIP Detail 3,687.00 5 Min: 2657
14 Date 9/15/2010	BIG LIME From / To 2321 - 2331	N² # of perfs	5,949.00	ATP Psi SIP Detail 3,687.00 5 Min: 2657 10 Min:
14 Date 9/15/2010 Avg Rate 29,160.00	From / To 2321 - 2331 Max Press PSI 3,995.00	N ² # of perfs ISIP 3,182.00	5,949.00 Frac Gradient 1.46	ATP Psi SIP Detail 3,687.00 5 Min: 2657 10 Min:
14 Date 9/15/2010 Avg Rate	From / To 2321 - 2331 Max Press PSI 3,995.00 Water-bbl	N ² # of perfs	5,949.00 Frac Gradient	ATP Psi SIP Detail 3,687.00 5 Min: 2657 10 Min:

45.02305

RECEIVED
Office of Oil & Gas

FEB 2 1 2013

State of west virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

API#

4704502333

Farm Name

Heartwood Forestland Fund

_ocation Elevation

852

District

Unknown

Latitude 9200 Degree 37 Minutes 42 Seconds 30

Longitude 8860 East Degree 81 Minutes 47 Seconds 30

Company

EQT Plaza

Suite 1700

625 Liberty Avenue Pittsburgh, Pa 15222

Agent

Cecil Ray

Inspector

Tom Morris

Permit Issued

1/25/10

Nell Work Commenced

6/18/2010

Nell Work Completed

8/19/2010

/erbal Plugging

Rotary Rig

Rotary Rig

Total Depth TVD: 4079

MD: 7,497.00

Well Number

511766

QUAD

Mallory

County

Logan,WV

w

37.68309 Longitude

-81.82219 Latitude

Casing &Tubing Size	<u>Used In</u> <u>Drilling</u>	<u>Left in</u> Well	Cement Cubic FT
18	22.00	22.00	
13 3/8	95.00	95.00	
9 5/8	510.00	510.00	259.20
7	2093.00	2,093.00	476.50
4 1/2	7458.00	7,458.00	RECEIVED

Office of Oil & Gas

FEB 2 1 2013

WV Department of Environmental Protection

<u>Type</u> From Fresh Water 133.00 Salt Water 2,000.00 **Producting Formation**

Gas: Initial Open

Flow

761

Final Open Flow

721

Static Rock Pressure

720

NOTE: On back of this form put the following

1) Details of Perforated intervals, fracturing or stimulating, physical change,etc.

2) The well log, a systematic detailed geological record of all formations including coal encountered in the well bore

Production Company

<u>Type</u>

Coal

From

133.00 ft. -

135.00

Gas Tests

ormation Name	Top	<u>Bottom</u>	Thickness	Depth Gas	Comments
ALT SAND	559.40	1,198.00	638.60	2,475.00	0 N/S
AVENCLIFF SAND	1,268.00	1,328.00	60.00	2.675.00	0 N/S
IPPER MAXTON SAND	1,448.00	1,613.00	165.00	3,050.00	0 TRACE
AIDDLE MAXTON SAND	1,688.00	1,830.00	142.00	3,454.00	0 TRACE
OWER MAXTON SAND	1,938.00	1,979.00	41.00	3,858.00	0 ODOR
ITTLE LIME	2,022.00	2,078.00	56.00	3.917.00	0 ODOR
IG LIME	2,094.00	2,430.00	336.00	4,350.00	0 N/S
VEIR SAND	2,516.00	2,631.00	115.00	4.993.00	0 N/S
UNBURY	2,956.00	2,980.00	24.00	6,096.00	1592 90/10 THUR 4"
IEREA SAND	2,980.00	3,014.00	34.00	6,341.00	712 18/10 THRU 4"
JPPER DEVONIAN	3,015.25				
ORDON SAND	3,288.00	3,318.00	30.00		
OWER HURON SHALE	4,054.00	4,516.00	462.00		
HURON SILTSTONE	4,066.00	4,138.00	72.00		
AVA SHALE	4,516.00	4,670.00	154.00		
INGOLA SHALE	4,670.00	4,902.00	232.00		
HINESTREET SHALE	4,902.00	•			

Questions regarding formations can be directed to Jonette Speranzo. Jsperanzo@eqt.com RECEIVED
Office of Oil & Gas

FEB 2 1 2013

15411 (Webs)	(Selection)	74Vutskeputuu(e)opu	weii	urealment	Summary
Stage 1	Formation LOWER HURON SILT	Frac Type N²			45.02333
Date 8/12/2010	From / To 7296 - 7458	# of perfs	BD Press 4,309.00	ATP Psi 5,885.00	SIP Detail 5 Min:
Avg Rate 102,094.00	Max Press PSI 6,118.00	ISIP	Frac Gradient		10 Min: 15 Min:
Sand Proppant	Water-bbl	SCF N2 1,001,276.00	Acid-Gal		
Stage 2	Formation LOWER HURON SILT	Frac Type N²			
Date 8/12/2010	From / To 7011 - 7296	# of perfs	BD Press 3,283.00	ATP Psi 5,417.00	SIP Detail 5 Min:
Avg Rate 105,172.00	Max Press PSI 5,557.00	ISIP	Frac Gradient		10 Min: 15 Min: RECEIVED
Sand Proppant	Water-bbl 5.50	SCF N2 1,001,845.00	Acid-Gal		Office of Oil & Gas
Stage 3	Formation LOWER HURON SILT	Frac Type N²			WV Department of Environmental Protection
Date 8/12/2010	From / To 6769 - 7011	# of perfs	BD Press 3,023.00	ATP Psi 4,851.00	SIP Detail 5 Min:
Avg Rate 105,178.00	Max Press PSI 4,955.00	ISIP	Frac Gradient		10 Min: 15 Min:
Sand Proppant	Water-bbl 5.00	SCF N2 1,003,383.00			

ा=)हर्स ////स्वरूक	eorlioisius.	Attended to the state of the st	weil.	lireatment	Summary
Stage	Formation	Frac Type		ing this exert was a firm for a	
4	LOWER HURON SILT	N²			45-02333
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/12/2010	6484 - 6769		3,099.00	4,625.00	5 Min:
			₹0 comme		
A Data			***** \$20 \$20 00		10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
103,213.00	4,712.00				·
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	5.60	1,001,878.00			
	RANGE TO BE WELL AND				
Stage	Formation	Frac Type			
5	LOWER HURON SILT	N²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/12/2010	6200 - 6484		3,163.00	4,532.00	5 Min: 1566
Assa Data	**** D DOI	IOID			10 Min:
Avg Rate	Max Press PSI		Frac Gradient		15 Min:
102,521.00	4,630.00	2,476.00		Ī	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	6.00	1,003,788.00			RECEIVED
Stage	Comption	Eron Tuno			Office of Oli & Gas
Stage 6	Formation LOWER HURON	Frac Type N ²			FEB 2 1 2013
U	SILT	IN			
Date	From / To	# of perfs	BD Press	ATP Psi	WV Department of
8/12/2010		# UI perio	3,045.00	5,170.00	5 Min:
0/ 12/2010	3913 - 0200		3,043.00	5,170.00	5 Milit.
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
101,694.00	5,346.00				453
Card Deannant	Mater bhi	SCF N2	Acid-Gal		
Sand Proppant					
	5.90	1,001,649.00			

Julea IVVector	สดาเกอเสนดน	Avicioninconi	3M©II	Triestiment	Summary,	
Stage	Formation	Frac Type				1/502-
7	LOWER HURON SILT	N ²				45-02333
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/12/2010	5674 - 5915		3,185.00	4,709.00	5 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:	
102,568.00	4,769.00	ion	r rac Gradient		15 IVIIII.	
187						
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.10	1,001,971.00			# M.J	
Stage	Formation	Frac Type				
8	LOWER HURON SILT	N ²				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/12/2010	5388 - 5674		3,365.00	4,769.00	5 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:	
102,866.00	4,843.00	.5	, iao oidaioit		10 14	
						• 2.0
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			RECEIVED
	5.30	1,001,901.00		Gorage Parliaments	Offic	e of Oil & Gas
Stage	Formation	Frac Type			F	EB 2 1 2013
9	LOWER HURON SILT	N ²				
					_ WI	Department of
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail///	mental Protection
8/12/2010	5103 - 5388		3,298.00	4,825.00	5 Min:	
					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
101,956.00	4,872.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
umpassaus i ium (m. 1911)	7.50	1,002,720.00			4 1	

- CANADA	્રજ્ઞામીશસાજા - જ્યામીશસાજા	Anacımısır	Well	Hiterannent	Summary	
Stage	Formation	Frac Type				45.02333
10	LOWER HURON SILT	N²				40.000
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/12/2010	4817 - 5103		3,303.00	4,252.00	5 Min: 1675	
Ava Pata	May Press Del	ICID	F 0 " 1		10 Min:	
Avg Rate	Max Press PSI		Frac Gradient		15 Min:	
104,273.00	4,316.00	2,130.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.90	1,002,937.00				
Stage	Formation	Frac Type				l
	LOWER HURON	N ²				
11	SILT	N				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/12/2010	4576 - 4817		3,122.00	5,085.00	5 Min: 1728	
A Data	Man Dune DO	IOID			10 Min:	
Avg Rate	Max Press PSI	1511	Frac Gradient		15 Min:	
103,548.00	5,178.00					DECEMEN
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			RECEIVED Office of Oil & Gas
	5.60	1,000,709.00		į.		onice of off of day
Stage	Formation	Frac Type				FEB 2 1 2013
12		N ²				MA/ Donombro
12	SILT	•••			Fn	WV Department of vironmental Protection
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	Anominental Protection
8/12/2010	4291 - 4576		3,201.00	4,409.00	5 Min: 1164	
0////			,	,		
					10 Min: 1140	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 1128	
107,309.00	4,571.00	2,001.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.00	1,001,461.00		.:		

Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

4/U45U2554

45-02334

ırm Name Well Number Heartwood Forest Land Fund 511764 ocation Elevation 852 QUAD Mallory strict Unknown County Logan,WV w atitude 9200 Degree 37 Minutes 42 Seconds 30 ongitude 8880 East Degree 81 Minutes 47 Seconds 30 **EQT Plaza** ompany 37.68309 Longitude **Suite 1700** 625 Liberty Avenue Latitude -81.82226 Pittsburgh, Pa 15222 Casing Used In Left in **Cement Cubic** &Tubing **Drilling** Agent <u>Well</u> EI Cecil Ray Size Inspector 18 5/8 22.00 22.00 Tom Morris 102.00 13 3/8 102.00 ermit Issued 1/25/2010 9 5/8 512.00 512.00 289.10 ell Work Commenced 6/11/2010 7 2079.00 2,079.00 474.20 'ell Work Completed 8/18/2010 4 1/2 7744.00 7,744.00 erbal Plugging RECEIVED otary Rig **Rotary Rig** Office of Oil & Gas SCPP: GVT ritged late **MD:** 7,858.00 FEB 2 1 2013 WV Department of **Environmental Protection** <u>From</u> <u>Type</u> **Type From** ft. 5.00 ft. -15.00 Coal Fresh Water 250.00 83.00 ft. -85.00 ft. Coal ft. 131.00 ft. -133.00 Coal **Producting Formation** Gas: Initial Open 2543 Flow 4385 Final Open Flow Static Rock Pressure 455 NOTE: On back of this form put the following 1) Details of Perforated intervals, fracturing or stimulating, physical change,etc. 2) The well log, a systematic detailed geological record of all formations including coal encountered in the well bore

By My htth

Date

Gas Tests

ormation Name	<u>Top</u>	<u>Bottom</u>	<u>Thickness</u>	Depth Gas	Comments
IVER BURN	0.00	5.00	5.00	2.489.00	0 Trace
OALBED METHANE	5.00	15.00	10.00	2,676.00	0 Trace
IVER BURN	15.00	83.00	68.00	3,057.00	0 Trace
OALBED METHANE	83.00	85.00	2.00	3,802.00	0 Trace
IVER BURN	85.00	131.00	46.00	4,850.00	0 Trace
OALBED METHANE	131.00	133.00	2.00	6,119.00	2909 44/10ths thru 7"
AND STONE	133.00	270.00	137.00	7,858.00	2543 22/10ths thru 4 1/2
ANDY SHALE	270.00	504.00	234.00		
ALT SAND	504.00	1,198.00	694.00		
AVENCLIFF SAND	1,268.00	1,328.00	60.00		
IPPER MAXTON SAND	1,448.00	1,613.00	165.00		
AIDDLE MAXTON SAND	1,688.00	1,830.00	142.00		
OWER MAXTON SAND	1,938.00	1,979.00	41.00		
ITTLE LIME	2,022.00	2,078.00	56.00		
IIG LIME	2,094.00	2,430.00	336.00		
VEIR SAND	2,516.00	2,631.00	115.00		
BUNBURY	2,956.00	2,980.00	24.00		RECEIVED
BEREA SAND	2,980.00	3,014.00	34.00		Office of Oil & Gas
JPPER DEVONIAN	3,015.25				Office of Off & Cas
3ORDON SAND	3,288.00	3,318.00	30.00		FEB 2 1 2013
OWER HURON SHALE	4,054.00	4,516.00	462.00		, <u></u> 1
. HURON SILTSTONE	4,066.00	4,138.00	72.00		WV Department of
IAVA SHALE	4,516.00	4,670.00	154.00		Environmental Protection
ANGOLA SHALE	4,670.00	4,902.00	232.00		Ellanoungue (Comon
RHINESTREET SHALE	4,902.00				
2	1. 5		•		

Questions regarding Formations
Can be directed to Jonette Speranzo

Jsperanzo@eqt.com

Or

412-395-3941

	eambierion 3		Mixell	lireatment	Summa	
Stage	Formation LOWER HURON	Frac Type N²				45-02334
Date 8/11/2010	From / To 7575 - 7734	# of perfs	BD Press 4,215.00		SIP Detail 5 Min:	l
Avg Rate 95,709.00	Max Press PSI 6,412.00	ISIP	Frac Gradient		10 Min: 15 Min:	
Sand Proppant	Water-bbl	SCF N2 1,000,532.00	Acid-Gal			
Stage 2	Formation LOWER HURON	Frac Type				
Date 8/11/2010	From / To 7335 - 7575	# of perfs	BD Press 4,097.00	ATP Psi 6,008.00	SIP Detail 5 Min:	RECEIVED
Avg Rate 96,776.00	Max Press PSI 6,323.00	ISIP	Frac Gradient		10 Min: 15 Min:	Office of Oil & Gas FEB 2 1 2013
Sand Proppant	Water-bbi 5.70	SCF N2 1,002,142.00	Acid-Gal			WV Department of Environmental Protection
Stage 3		Frac Type N²				
Date 8/11/2010		# of perfs	BD Press 3,877.00	ATP Psi 6,068.00	SIP Deta	il
Avg Rate 85,271.00		ISIP	Frac Gradient		10 Min: 15 Min:	*
Sand Proppant	Water-bbl 8.20					

	Completion . A		weu) reatment	Summen	
Stage	Formation	Frac Type				45-02334
. 4	LOWER HURON	N ²				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	6810 - 7050		4,037.00	6,003.00	5 Min:	
Avg Rate	Max Press PSI	ISIP F	Frac Gradient		10 Min: 15 Min:	
90,856.00	6,390.00					
55,550.65	3,23333					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	, 5.60	1,003,181.00		- 100		
Stage	Formation	Frac Type				
5	LOWER HURON	N²				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	6569 - 6810		3,845.00	6,209.00	5 Min: 2757	
					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
82,452.00	6,435.00	4,164.00	1.1			RECEIVED Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			FEB 2 1 2013
	11.90	1,001,662.00				, LD g I LOID
Stage 6	Formation LOWER HURON	Frac Type N²			En	WV Department of vironmental Protection
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	6285 - 6569		4,191.00	6,268.00	5 Min:	
					10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
75,545.00		10.11				
70,040.00	0,007.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.60	1,001,394.00				

	- অভাগাগিলের জ্ব	zatstejtjun(e) tyr.	////ell	llieniment	Summary
Stage	Formation	Frac Type			
	LOWER HURON	N ²			45-02334
Date	From / To	# of perfs	BD Press		SIP Detail
8/11/2010	6045 - 6285		4,428.00	5,814.00	5 Min:
Avg Rate	Max Press PSI	leib i	Frac Gradient		10 Min: 15 Min:
Carrott Ithe Co.		ISIP I	riac Gradient		13 Will.
98,560.00	5,961.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	5.40	1,002,418.00			
Stage	Formation	Eroo Tyroo		1000	
100		Frac Type			
8	LOWER HURON	N ²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/11/2010	5805 - 6045		3,803.00	6,268.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
90,245.00	6,405.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		RECEIVED
5. 5 S	5.50	1,002,000.00			Office of Oil & Gas
				V. 17 - 14 10 1 15 1 1	Office of Office Gas
Stage	Formation	Frac Type			FEB 2 1 2013
9	LOWER HURON	N ²			100 (5)
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail WV Department of
8/11/2010	5519 - 5805		4,224.00	5,994.00	5 Min: 2531
					10 Min:
Avg Rate			Frac Gradient		15 Min:
98,505.00	6,225.00	3,650.00	0.964		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	7.20	1,001,782.00			

THE WINES	ລວາມໂນສະເຈົ້າ	tare (myllose) vyc	Well	Mennent .	Summer	Y
Stage	Formation	Frac Type				1/- 26 1
10	LOWER HURON	N²				45-02334
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	5279 - 5519		3,873.00	5,796.00	5 Min: 2491	
A D . (.	M D DOI	IOID			10 Min:	
Avg Rate	Max Press PSI		Frac Gradient		15 Min:	
102,199.00	5,909.00	3,359.00	0.887			
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.00	1,002,184.00				
3	Formation	Б Т				
Stage		Frac Type				
11	LOWER HURON	N ²				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	4995 - 5279		4,030.00	5,477.00	5 Min:	
A D . 1	84 D DC	icin	Tues Outside ut		10 Min: 15 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 WIII.	RECEIVED
105,922.00	5,717.00					Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			FEB 2 1 2013
	5.80	1,001,412.00	No. 4 P. L. Pour Market Land Conference State of			1 LD & 1.2013
Stage	Formation	Frac Type				WV Department of
12	LOWER HURON	N²			En	vironmental Protection
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/11/2010	4754 - 4995		3,970.00	5,118.00	5 Min:	
		9127.002			10 Min:	
Avg Rate		ISIP	Frac Gradient		15 Min:	
104,810.00	5,177.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	. 5.50	1,001,609.00)			

JERAN WWW.00	on tibretion.	Ameremment	WEIL	meannem	- Summery
Stage	Formation	Frac Type			
13	LOWER HURON	N ²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/11/2010	4514 - 4754		3,677.00	5,473.00	5 Min: 2325
					10 Min: 2126
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2026
104,356.00	5,667.00	3,310.00			
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	5.70	1,001,730.00		101	

45-02334

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FEB 2 1.2013

WR-35 Rev (9-11)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	February 5, 2013
API#:	47-051-01437

Farm n	ame: Corley	Operator Weli No.: 2H				
LOCA	TION: Elevation: 1272	Quadrangle: Powhatan Point 7.5'				
	District: Franklin	County: Mars	hall			
	Latitude: 14,155 Feet South of 39 Deg.		ı. ³⁰ Se	c.		
	Longitude 3,750 Feet West of 80 Deg.	45 Min	ı. 00 Se	c.		
	Company: Gastar Exploration USA, Inc.					
	Address: 229 West Main Street, Suite 301	Casing & Tubing	Used in drilling	Left in well	Cement fill	
	Clarksburg, WV 26301	20"	40'	40'	up Cu. Ft. CTS	
	Agent: Michael McCown	13-3/8"	1017'	1017'	975'	
	Inspector: Carl McCune	9-5/8"	2494'	2494'	906'	
	Date Permit Issued: 04/05/2011	5-1/2"	12,152	12,152'	3229'	
	Date Well Work Commenced: 07/21/2011		12,102	12,102		
	Date Well Work Completed: 11/17/2011					
	Verbal Plugging:					
	Date Permission granted on:		†			
	Rotary Cable Rig					
	Total Vertical Depth (ft): 6632'					
	Total Measured Depth (ft): 12,152'					
	Fresh Water Depth (ft.): 60'					
1	Salt Water Depth (fl.): 1600'					
	Is coal being mined in area (N/Y)? N					
	Coal Depths (ft.): refer to page 2					
	Void(s) encountered (N/Y) Depth(s) N					
C	Gas: Initial open flow $\frac{2028}{M}$ MCF/d Oil: Initial open f Final open flow $\frac{2413}{M}$ MCF/d Final open flow Time of open flow between initial and final tests $\frac{24}{M}$	zone depth (ft) low 38 B w 45 Bl Hours	6835' Bbl/d bl/d s	F	RECEIVED te of Oil & Gas	
S	Static rock Pressure 2265 csg. psig (surface pressure) a	fterHou	ırs	!	FEB 2 5 2013	
S	Second producing formation none Pay 20	ne depth (ft)		1	FED Z & ZUIS	
(Gas: Initial open flowMCF/d Oil: Initial open f			\۸۸/	Denartment of	
	Final open flow MCF/d Final open flow Time of open flow between initial and final tests			Enviror	Department of mental Protection	
5	Static rock Pressurepsig (surface pressure) a			Tar & Carlot		
I certify	y under penalty of law that I have personally examined attachments and that, based on my inquiry of those indiction is true, accurate, and complete. Signature	and am familia	r with the infor iately responsib	mation submitted ble for obtaining $\sqrt{25/2}$ $\sqrt{2}$	d on this document and the information I believe	
	Signature			Date		

Were core samples taken?	YesNo_X	Were cuttings caug	tht during drilling? Yes X No
Were Electrical, Mechanical YES: GR, Mudlog, Aco	or Geophysical logs recorded o ousti, Density, Induction, Me	n this well? If ves please l	list
DETAILED GEOLOGIC COAL ENCOUNTERED	AL RECORD OF THE TO BY THE WELLBORE FROM	NGE, ETC. 2). THE WE PS AND BOTTOMS O	LS OF PERFORATED INTERVALS, ELL LOG WHICH IS A SYSTEMATIC F ALL FORMATIONS, INCLUDING DEPTH.
Perforated Intervals, Fracturi	ing, or Stimulating:		
		4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	RECEIVED Office of Oil & Gas
Plug Back Details Including	Plug Type and Denth(c)	V-1	FEB 2.5 7013
Ting Duck Deaths Melading	Ting Type and Depution.		MA/ Donorton and a
· · · · · · · · · · · · · · · · · · ·			WV Department of Environmental Protection
Formations Encountered: Surface:	Тор	Depth /	Bottom Depth
Sewickley:	Top:885, Base: 905	Java:	5378, 5698
Pittsburgh coal:	1061, 1071	Rhinestreet:	6190, 6500
Maxton:	1980, 2030	Cashaqua:	6547, 6692
Big Lime:	2043, 2073	Middlesex:	6642, 6662
Big Injun:	2079	West River:	6664, 6724
Base of Big Injun:	2223	Geneseo:	6726, 6744
Weir:	2397, 2567	Tully:	6740, 6775
Berea:	2581, 2821	Hamilton:	6786, 6836
Gordon:	2855, 2885	Marcellus:	6835, 6888
Benson:	3617, 3627	Onondaga:	6889, NA (TD'd before base)

Well Name:

Corley 2H

Permit #:

47-051-01437

remit n.	47-031-014							
	Interval P	erforated		Stimulation Summary				
Date	From	То	Date	Fluid	Amount	Proppant	Amount	AVG Rate
9/14/2011	12083	11877	10/10/2011	SLK WTR	9341	100m & 40/70	378110	87
10/10/2011	11787	11577	10/10/2011	SLK WTR	8872	100m & 40/70	380183	87
10/11/2011	11487	11277	10/11/2011	SLK WTR	8829	100m & 40/70	375681	85
10/11/2011	11187	10977	10/11/2011	SLK WTR	8894	100m & 40/70	375250	87
10/12/2011	10887	10677	10/12/2011	SLK WTR	8644	100m & 40/70	374862	87
10/12/2011	10587	10377	10/12/2011	SLK WTR	8901	100m & 40/70	374226	88
10/13/2011	10287	10077	10/13/2011	SLK WTR	8913	100m & 40/70	374366	88
10/13/2011	9987	9777	10/13/2011	SLK WTR	8722	100m & 40/70	374079	89
10/14/2011	9687	9477	10/14/2011	SLK WTR	9534	100m & 40/70	384975	88
10/14/2011	9387	9177	10/14/2011	SLK WTR	8594	100m & 40/70	376862	88
10/14/2011	9087	8877	10/14/2011	SLK WTR	8880	100m & 40/70	378310	91
10/15/2011	8787	8577	10/15/2011	SLK WTR	8608	100m & 40/70	374321	89
10/15/2011	8487	8277	10/15/2011	SLK WTR	9138	100m & 40/70	372451	90
10/16/2011	8187	7977	10/16/2011	SLK WTR	9051	100m & 40/70	374696	91
10/16/2011	7887	7677	10/16/2011	SLK WTR	9225	100m & 40/70	376308	88
10/17/2011	7587	7377	10/17/2011	SLK WTR	9079	100m & 40/70	373125	87
10/18/2011	7287	6937	10/18/2011	SLK WTR	8774	100m & 40/70	373700	88

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 $F_{\alpha, 1}$ is

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

	ii Operator's Report			
Farm Name: Plum Creek Timberlands	Op	erator Well No.	: 149	
LOCATION: Elevation: 2091.24'	Quadra	ngle: War		
District: Big Creek		County: I	McDowell	
	outh of 37 Deg	. 22 Min. 30		
Longitude: 10202 Feet V			Sec.	
Longitude. 1000				
Company: Classic Oil and Gas Resour	rces [
416 West Brannon Road	Casing	Used in	Left	Cement
Nicholasville, KY 40356-8845	Casing &			Fill Up
	Tubing	Drilling	In Well	Cu. Ft.
Agent: ROBERT INGHRAM				
D 04-11:	Size			
Inspector: Barry Stollings				
Permit Issued: 10-11-06	12 3/4"	22'	22'	n/a
Well Work Commenced: 01-03-07			1	
Well Work Completed: 01-15-07				
Verbal Plugging				
Permission granted on: N/A	9 5/8"	0'	0'	<u>n/a</u>
Rotary X Cable Rig				
Total Depth (feet) 4080'				
Fresh water depths (ft) 940	6722	17062	1706'	235 sks
	7"	<u>1706'</u>	1700	233 SKS
Salt water depths (ft) None				
	4 1/2"	3978'	3978'	140sks
Is coal being mined in area (Y/N)? N	4 1/2	3976	3776	1 TOSKS
Coal Depths (ft): 940		 		
Coal Depuis (10).				
OPEN FLOW DATA	L.,			
Producing formation Pay zone	s not drilled	Pay :	zone depth (ft) S	See Back
Gas: Initial open flow n/a	MCF/d C	il: Initial open	flow <u>s0</u>	Bbl/d
Final open flow n/a	MCF/d	Final ope	en flow 0	Bbl/d
Time of open flow between	n initial and final test	s n/a		Hours
Static rock Pressure n/a		ace pressure) af	ter 24	Hours
Second producing formation		-	ne depth (ft)	
· · · · · · · · · · · · · · · · · · ·		•	flow	
Gas: Initial open flow			en flow	
Final open flow	· · · · · · · · · · · · · · · · · · ·	•		Hours
Time of open flow between				Hours
Static rock Pressure NOTE: ON BACK OF THIS FORM PUT THE	psig (surface p	oressure) after_	FORATED INTE	
ATT ATTICLE DITIONAL CITANICE	ETC 2) THE WELL	I ME WHILH IS	N A D VOI EIVIA II	
GEOLOGICAL RECORD OF ALL FORMAT	IONS, INCLUDING C	DAY EXIGOUNT		WELLBORE.
	/	MM	(weeps	251
		COIL & GAS RES	SOURCES, INC.	Y - 1
•		illiam Kelly		
	D-4 (12-21-13		

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

01-14-07: Had to run 4 ½" csg. shallow to save badly caving hole. When possible, will have to slim hole drill through Berea to complete pay zones in Berea & Big Lime. Well temporarily completed until that time.

FORMATION	TOP	BOTTOM	OIL, GAS, WATER
Pennsylvanian Sands, shales, coals	0'	1828'	
Salt Sand			
Ravencliff	2272'	2375'	
Upper Maxton	2540'	2564'	
Middle Maxton	3000'	3048'	
Lower Maxton	3254'	3298'	
Big Lime	3548'	4030' TD	•

State of West Virginia Division of Environmental Protection Section of Oil and Gas

•	rator's Report o	f Well Work		
Farm Name: Plum Creek Timberlands		rator Well No.		-
LOCATION: Elevation: 1873.56'	Quadran	gle: Bradshav	<i>x</i>	
District: Big Creek		County: N	1cDowell	
Latitude: 11719 Feet South of	f 37 Deg.	20 Min. 00	Sec.	
Longitude: 1480 Feet West o	of 81 Deg. 4	Min. 00	Sec.	
Company: Classic Oil and Gas Resources 416 West Brannon Road Nicholasville, KY 40356-8845	Casing &	Used in	Left	Cement Fill Up
Agent: ROBERT INGHRAM	Tubing	Drilling	In Well	Cu. Ft.
Inspector: Barry Stollings	Size			
Permit Issued: 03-27-07 Well Work Commenced: 03-31-07	12 3/4"	20'	20'	n/a
Well Work Completed: 06-17-07 Verbal Plugging	0.5.00	0,	0,	n/a
Permission granted on: N/A Rotary X Cable Rig	9 5/8"	0'	0	<u>wa</u>
Rotary X Cable Rig Total Depth (feet) 6290'				
Fresh water depths (ft) $\frac{0290}{700}$	7"	<u>1190'</u>	1190'	<u>225 sks</u>
Salt water depths (ft) None	4 1/2"	5200'	5200'	118sks
Is coal being mined in area (Y/N)? N				
Coal Depths (ft): No Record				
OPEN FLOW DATA				
Producing formation Pay zones not	yet complete	ed Pay z	one depth (ft) S	See Back
Gas: Initial open flow n/a	MCF/d O	il: Initial open f	low <u>s0</u>	Bbl/d
Final open flow n/a	MCF/d	Final ope		Bbl/d
Time of open flow between initia	al and final tests	n/a		Hours
Static rock Pressure n/a	psig (surfa	ice pressure) aft	er <u>24</u>	Hours
Second producing formation		Pay zon	e depth (ft)	
Gas: Initial open flow	MCF/d C	il: Initial open	flow	Bbl/d
Final open flow	MCF/d	Final ope	n flow	B01/a
Time of open flow between inita	l and final tests			Hours
Static rock Pressure	psig (surface p	ressure) after	OD ATED BETE	Hours
NOTE: ON BACK OF THIS FORM PUT THE FOLLOW STIMULATING, PHYSICAL CHANGE, ETC. GEOLOGICATIONS,		DALENCOUNT	EREO BY THE	
Office of Oil & Gas	CLASSI	COIL & GAS RES	OURCES, INC.	-
FEB 2 5 2013		illiam Kelly 2-21-13		

WV Department of Environmental Protection

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

04-26-07: Perf squeeze holes @ 4857'-82'. Attempt squeeze job, but cement locked up in 4 ½" csg @3552'. Temporarily completed at that point until cement can be drilled out and pay zones treated.

FORMATION	TOP	BOTTOM	OIL, GAS, WATER
Pennsylvanian Sands, shales, coals	0,	1302'	
Salt Sand	****		
Ravencliff	2071'	2146'	
Upper Maxton	2346'	2376'	
Middle Maxton	2880'	3014'	
Lower Maxton	3176'	3212'	·
Big Lime	3438'	4110'	
Injun			
Weir			·
Berea	4727'	4788'	
Gordon	4850'	4884'	
Devonian Shale	4788'	6290' TD	Gas at TD - Show

DATE: 1/11/13

API#: 47-087-04702

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Farm name:	James B.	Marshall	Oper	rator Well No.	:HR 450_	
LOCATION:	Elevation:	887'	Quad	drangle:	Reedy WV 7.	5'
Diet	rict.	Reedy	County	Roa	ne	
I ati	tude: 14818'	Reedy	eg. 55 I	Min. 00S	ec.	
Lon	gitude 5855°	Feet West of 81	Deg. 25 Min	n. 00 Se	c.	
	_					
Company:	Hard Rock E	xploration			1	1
			Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244				ļ		1
	rleston WV, 2	5312		 		27/4
Agent: Marc			13 3/8"	32'	32'	N/A
Inspector: Ed			9 5/8"	800'	800'	396 ft3 CTS
Date Permit I			<u> </u>	2289'	2289'	514 ft3 CTS
Date Well Wo			4.5"	7477'	7477'	140 ft3
Date Well Wo		d: 9/7/13	7 0	Y 6 (270	10/1 (D)(Ison) 49	21234D) (Cond))
Verbal Plugg					0'MD(kop) - 48	T (Land)
Date Permissi				g from (3650'		<u> </u>
Rotary x		Rig	Ran OH Log	from 1735' - 5		
		TMD, 4500°TVD	 		RECEIV	
Fresh Water	Depth (ft.):	120.		 	Hice of Oil	R Gas
C-14 WV-4 T)	201 20201	+		Mice or on	34 000
Sait Water 1	Depth (ft.): 19	30 , 2030	 		FEB 20	2013
Is coal being	mined in area	(N/V)? N	-		+ FEB 20	
Coal Depths (<u> </u>	 	_	
Coar Depens				•	WV Depart	ment of
OPEN FLO)W DATA			En	vironmental	Protection
Produc	ing formatio	nLower Huron_Sh	alePay zone	e depth (ft)	4606'MD- 7553 4445'TVD - 4	'MD 500' TVD
Gag. It	nitial onen flo	ow_ 50 MCF/d Oil: Ini	itial open flow	Bb	1/d	
Fin	al open flow	>1.5MMCF/d	Final open	flow	Bbl/d	
Tin	ne of onen flo	w between initial and	final tests	72	Hours	
Static:	rock Pressure	e_1240psig (surface pressu	re) after	Hours	
butto	IOOK I TOODUIT		Constant Proces			•
Second	d producing i	formation	Pay zo	ne depth (ft)		
	nitial open flo		: Initial open		Bbl/d	
			Final open flo		Bbl/d	
Tin	ne of onen flo	ow between initial and			urs	
Static	rock Pressure	epsig (surfa	ice pressure) a	fter H	Iours	
Static	100% 1103561		prossure, a			
NOTE: ON	N BACK OF	THIS FORM PUT THE	FOLLOWING	: 1). DETAIL	S OF PERFORAT	TED .
TATTETO STA	TO EDACTI	TA TIMITS ON STATE	NG PHYSICA	AL CHANGE.	ETC. 2), THE W	ELL
LOG WHI	CH IS A SX4	STEMATIC DETAILED COUNTERED BY THE	REDFOCICA	L RECORD	OF ALL FORMA	TIONS,
INCLUDI	NG COAL (EN	COUNTERED BY THE	WELLEORE.			
Si	igned: 📐	Junes // (The	- 17			
	By:	President/_	_//			
	Date/	2/20/2013				

Formation:	Top:	Bottom:	87-04702
Red Rock, Sand , Shale	.0	1800	
Salt Sands	1800	2080	
Lime	2080	2110	
Injun	2110	2165	
Shale	2165	2452	
Coffee Shale	2452	2467	
Devonian Shale	2467	4310	
Lower Huron Section	4310	TD	

All Formation depths shown As TVD

08/31/12 Run Peak Completions pump out shoe with 14 stg open hole mechanical packers and frac sleeves. continue running casing total of 175 jts of R-3 4.5" 11.6ppf N-80 casing and frac packers to depth of 7477' GL and 7483' KB. start pumping 2 bbl water, drop ball for pump out shoe and follow with 2 bbl water. follow with N2 at 5000 scf/min. Land ball and pressure up to 3100psi. Hold pressure for 20 min. Continue to increase pressure to 3600 psi to shear pins in shoe. SWI. RU and perform annular squeeze with 100sx type 1 2% CaCl mixed at 14.6ppg. Follow with 3 bbl water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVE SERVES AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Packer	Seat	
1	7432.2	7341.1	N/A	
2	7212.2	7121.1	1.15	
3	6992.2	6901.1	1.28	j'
4	6814.0	6722.9	1.40	
5	6594.0	6502.9	1.53	RECEIVED
6	6374.0	6282.9	1.6 5	Office of Oil & Gas
7	6154.0	6062.9	1.78	Office of Oli & Co
8	5975.8	5884.7	2.03	Office
9	5755.8	5664.7	2.28	FEB 2'0 2013
10	5535.8	5444.7	2.53	The b
11	5315.8	5224.7	2.78	io inamia.
12	5095.8	5004.7	3.03	INV Department action
13	4917.6	4826.5	3.28	immental Protection
14	4697.6	4606.5	3.53	WV Department of Environmental Protection
Anchor		2591.0		

9/6/12 - 09/07/12 MIRU Nabors Frac Crew. Casing pressure 1240 psi. Bring trucks to half rate and start increasing slowly according to pressure response. Pump total of 1 MMscf for Stg 1. Shut down and bleed off lines. Place 1.25" ball on frac gate and equalize. Drop ball for Stg 2 and wait for ball to drop. Start pumping at 15k scf/min and up rate to 20k and 30k to land ball and open sleeve. Increase rate to 100k scf/min and pump total of 1 MMscf N2. Repeat process for Stg 3- Stg 14.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Max P	4712	4840	5100	5400	5808	5944	5825
Avg P	4616	4002	4932	5126	5618	5860	5722
Max R	91.5	106.1	104.6	103	102	84	103
Avg R	88.7	103.2	103.3	103	88	81	101
	1970	N/A	N/A	1866	N/A	2182	N/A
5 Min	1870	I N/A	IVA	1 1 0 0 0	IVA	LIUL	1 4424
5 Min	1 1870	N/A	IVA	1800	IWA	2102	1 1 1 1 1 1
5 Min	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	1
	1	1					1
Max P	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14
Max P Avg P	Stage 8 5442	Stage 9 4518	Stage 10 4440	Stage 11 4281	Stage 12 4250	Stage 13 4120	Stage 14 4132
Max P Avg P Max R Avg R	Stage 8 5442 5378	Stage 9 4518 4493	Stage 10 4440 4353	Stage 11 4281 4254	Stage 12 4250 4173	Stage 13 4120 4097	Stage 14 4132 4115

DATE: 1/15/13

API#: 47-087-04706

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Farm name: John Edward Huffman_	Oper	rator Well No.:	HR 451	
LOCATION: Elevation:728'	Quad	lrangle:	Peniel WV 7.5	5'
District:Reedy	County:	Roa	ne	
Latitude: 6304' Feet South of 38 Deg	g. 52 M	lin. 30 Sec	C.	
Longitude 1365' Feet West of 81				
Company: Hard Rock Exploration	- 			
Company:Hard Rock Exploration	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244 Martins Branch Road				
Charleston WV, 25312	20"	21'	21'	N/A
Agent: Marc Scholl	13 3/8"	83'	83'	84cuft
Inspector: Ed Gainer	9 5/8"	672'	672'	336 ft3 CTS
Date Permit Issued: 9/1/2011	7"	2399'	2399'	519 ft3 CTS
Date Well Work Commenced: 9/26/12	4.5"	7344'	7344'	140 ft3
Date Well Work Completed: 10/18/12				
Verbal Plugging:	Ran Gamma	Log from (367	5'MD(kop) - 484	1'MD (Land))
Date Permission granted on:	Ran Gyro Lo	g from (3600'	- Surface)	<u> </u>
Rotary x Cable Rig				
Total Depth (feet): 7403'TMD, 4381'TVD				
Fresh Water Depth (ft.): 40', 481'			DEC	EIVED
		<u> </u>	NEO.	Oil Cos
Salt Water Depth (ft.): 1237', 1836'			Office of	Oil & Gas
		<u></u>		<u> </u>
Is coal being mined in area (N/Y)? N			FFR	20 2013
Coal Depths (ft.):N/A		1		1
OPEN FLOW DATA			WV Dep	partment of
OFENTION DATA			Environme	ntal Protection
Producing formationLower Huron_Sh	ale Pay zone	e depth (ft) 4	227'MD- 7403	'MD
1 loddemg loimationbowoi ilaton_bi	o <u></u> 1	dopini (10)	4154°TVD - 4	381' TVD
Gas: Initial open flow_ 100 MCF/d Oil: In	nitial open flor			
Final open flow >1.5 MMCF/d	Final open	flow	Bbl/d	
Time of open flow between initial and	final tests	72	Iours	
Static rock Pressurepsig (surface	re pressine) a	fter Ho	iirg	
Static fock i ressurepaig (sum	oo prossuro, u	110		
Second producing formation	Pay 70	ne depth (ft)		
Gas: Initial open flow MCF/d Oil	Initial open f		Bbl/d	
	Final open flow		Bbl/d	
Time of open flow between initial and		Ho		
	THE 16212		ours	
Static rock Pressurepsig (surfa	ce pressure) a	11011	ours	
NOTE: ON BACK OF THIS FORM PUT THE	FOLLOWING	1). DETAILS	OF PERFORAT	ED
INTERVALS, FRACTURING OR STIMULATI	NG. PHYSICA	L CHANGE.	ETC. 2). THE W	ELL
LOG WHICH IS A SYSTEMATIC DETAILED	GEOLOGICA	L RECORD (OF ALL FORMA	TIONS,
INCLUDING COAL ENCOUNTERED BY THE	-METTROKE)		
Signed: Ames The	et y			
By: President U				
Date: /2/20/2013	$\underline{\hspace{1cm}} \mathcal{V}$			

87-04706

Formation:	Top:	Bottom	
		4500	
Soil/Sand/Shale	0	1580	
Salt Sand	1580	1850	
Big Lime	1850	1915	
Injun/Squaw	1915	2080	
Shale	2080	2337	
Coffee Shale	2337	2350	
Devonian Shale	2350	4370	
Lower Huron Section	4170	4370	

All depths shown As TVD

10/05/12 Run total of 162 jts of R-3 4.5" 11.6ppf N-80 to depth of 7344' KB. With 14stg openhole packer system. MIRU Nabors Packer set crew. Drop ball for pump out shoe and pressure up casing with N2 to set packers. Continue to pressure up to 4091 psi and open pump out shoe. Gas rate on 7" shut off (approx. 6 tenths 2") Dump squeeze on anchor packer with 100 sx type 1 cmt mixed at 15ppg.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVE SERVES AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Packer	
1	7344	7165	
2	7025	6932	
3	6792	6699	
4	6604	6511	
5	6371	6278	
6	6138	6045	RECEIVED
7	5905	5812	Office of Oil & Gas
8	5672	5579	,
9	5439	5347	FEB 2 0 2013
. 10	5207	5114	20 2010
11	5018	4881	WV Department of
12	4785	4692	WV Department of Environmental Protection
13	4552	4460	Environmental Protection
14	4319	4227	
Anchor		2668	

10/18/12 MIRU Nabors Stimulation Crew. Wellhead pressure 1104psi. Pressure test and start pumping on Stg 1. Pump total of 1MM scf N2. Shut down. Load and drop 1.25" ball for Stg 2 off the gate. Start pumping ball down at 20k scf/min. Open sleeve Bring rate up to design of 100 kscf/min and pump total of 1MM scf N2. Shut down and drop 1.375" ball for Stg 3. Repeat process for Stgs 3 – Stg 14.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Max P	4766	4890	4992	5016	4829	4535	4795
Avg P	4749	4802	4830	4912	4780	4499	4701
Max R	104.2	103.3	103.3	104.6	105.2	105.2	105.0
Avg R	101.2	102.5	102.2	103.3	104.7	104.2	104.0
Shut In	1660-5m	1714-2m	1701-2m	N/A	1512-5m	N/A	1501-5m

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14
Max P	4598	4265	4041	4084	4231	4205	3957
Avg P	4571	4245	4023	4059	4225	4161	3949
Max R	103.0	104.0	104.0	106.0	108.0	109.0	107.0
Avg R	102.5	103.5	103.2	102.6	107.2	10.6	105.7
Shut In	N/A	· N/A	1490-5m	N/A	N/A	1486-5m	1811-5m

87.04706

RECEIVED
Office of Oil & Gas

FEB 2 0 2013

WV Department of Environmental Protection

DATE: 1/15/13

API#: 47-087-04718

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Farm name:Larry D. And Joyce Epling	Ope	rator Well No.	:HR 475_	 .	
LOCATION: Elevation:1020'	evation:1020' Quadrangle: Reedy WV 7.5'				
District:Reedy	g55M	in00Se	c.		
Company:Hard Rock Exploration	Casing &	Used in	Left in well	Cement fill	
	Tubing	drilling		up Cu. Ft.	
Address: 1244 Martins Branch Road			_		
Charleston WV, 25312		<u> </u>			
Agent: Marc Scholl	13 3/8"	32'	32'	N/A	
Inspector: Ed Gainer	9 5/8"	914'	914'	456 ft3 CTS	
Date Permit Issued: 6/26/12	7"	2621'	2621'	564 ft3 CTS	
Date Well Work Commenced: 9/5/12	4.5"	7560'	7560'	130 ft3	
Date Well Work Completed: 10/5/12	<u> </u>	<u> </u>			
Verbal Plugging:			0'MD(kop) - 49		
Date Permission granted on:			r plugged back an	d started new	
Rotary x Cable Rig	Build section	at shallower T	TVD.		
Total Depth (feet): 7614'TMD, 4401'TVD		<u> </u>	<u>l</u>		_
Fresh Water Depth (ft.): None - dry	Ran Gyro Lo	g from 3700' -	Surface	RECEIVED)
				Mice of Oil &	Gas
Salt Water Depth (ft.): 1927'			_		0.0.0
	-			FEB 2 0 2013	ł
Is coal being mined in area (N/Y)? N	 			125 20 2010	,
Coal Depths (ft.):N/A	1		1	 	
OPEN FLOW DATA				NV Departme ironmental Pro	
Producing formationLower Huron_Sh	alePay zone		1531'MD- 7614 4362'TVD – 4		
Gas: Initial open flow_375 MCF/d Oil: In		vB1	bl/d	101 112	
Final open flow >1.5 MMCF/d	final open i	10W			
Time of open flow between initial and	imai tests	_/2F.	ious Trains		
Static rock Pressure_1240psig (nours		
	Pay zo			•	
	Initial open f		Bbl/d		
Final open flow MCF/d Final open flow Bbl/d					
Time of open flow between initial and					
Static rock Pressurepsig (surfa	ce pressure) af	terH	ours		
NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATE LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE Signed: By: President	NG. PHYSICA	L CHANGE.	ETC. 2), THE W	ELL	

Formation:	Top:	Bottom:	87.04718
RR/Sand/Shale	0	1875	
Salt Sand	1875	2110	
Big Lime	2110	2160	
Big injun	2160	2180	
Weir	2519	2525	
Coffee Shale	2571	2587	
Devonian Shale	2587	4530 '	
Lower Huron Section	4350	4530'	

All depths shown As TVD

Initial KOP- 3950'MD

Initial Land - 4905'MD, 4530' TVD

Drilled to depth of 7418'MD and had downhole fire - left 60jts DP and BHA in hole.

Anchor

09/15/12 Call out for Cmt crew to plug back. Start pumping 88 bbls Type 1 2% CaCl (75 bbl at 15 ppg, 13 at 15.6 ppg). Follow cmt with 2 bbl water. Well on suction. TOOH with 20 jts drill pipe back to 2148'. Blow through string with air. Wait on cmt to run Wireline and check top. Cmt top at 3000'

Final KOP 3756'
Final Land – 4780'MD, 4401'TVD
Drilled to depth of 7614'TMD

09/20/12. Run total of 177 jts of 4.5" R-3 11.6ppf N-80 casing to depth of 7560' set at 7566' KB. MIRU Nabors Packer set crew. Pressure test surface lines to 5000 psi. Start pumping 2 bbl water and drop ball for pump out shoe – follow with 2 bbl water and start pumping N2. Pressure up to 3000 psi with approx. 150k scf N2 at 5:50am. Hold pressure for 10 min and continue to pump N2 to pressure up to 4019 psi to open shoe. Pumped total of 198k scf. Finish opening shoe at 6:10am. Dump squeeze with 100 sx cmt mixed at 15ppg. Follow with 2 bbl water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVE SERVES AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Sleeve ID	Ball Size	Packer	RECEIVED
1	7559.25	P/O Shoe	N/A	7432.85	Office of Oil & Gas
2	7299.95	1.15	1.250	7212.85	
3	7079.95	1.28	1.375	6992.85	FEB 2 0 2013
4	6859.95	1.40	1.500	6772.85	1004
5	6639.95	1.53	1.625	6552.85	WV Department of Environmental Protection
6	6461.75	1.65	1.750	6332.85	Environmental Protection
7	6199.95	1.78	2.000	3071.05	
8	5938.15	2.03	2.250	5851.05	
9	5718.15	2.28	2.500	5631,05	
10	5498.15	2.53	2.750	5411.05	
11	5278.15	2.78	3.000	5191.05	
12	5058.15	3.03	3.250	4971.05	
13	4838.15	3.28	3.500	4751.05	
14	4618.15	3.53	3.750	4531.05	

2975.00

87-04718

10/05/12 Nabors Stim crew Pressure test lines (MIRU on 10/4/12). Open frac valve at 6:50am – 1226 psi casing pressure. Start pumping at half rate On Stg 1 and bring trucks in slowly. Pump total of 1MM scf N2 at 100k scf/min. Shut down and drop 1.25" ball for Stg 2 off of gate. Start pumping at 17k scf/min; Open sleeve and Bring to design rate of 100kscf/min and pump total of 1MM scf N2. Shut down and drop 1.375"ball for Stg 3 and repeat process for Stgs 3 – Stg 14.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Max P	5085	5050	5538	5634	5634	5683	5890
Avg P	4739	4781	5349	5567	5567	5580	5833
Max R	104	102	103	105	105	106	99
Avg R	98	99	101	101	103	101	97
Shut In	1705-10	1682-10	N/A	N/A	N/A	N/A	N/A
	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14
Max P	4762	4550	4593	4616	4793	5120	4718
Avg P	4620	4470	4563	4537	4735	5074	4673
							440
Max R	103	103	102	101	103	102	102
Max R Avg R	103	103 100	102 101	101	103 102	102 101	102

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Office of Oil & Gas

FEB 2 0 2013

WV Department of Environmental Protection

WR-35 Rev (9-11)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	February 20, 2013
API#:	47-073-00982F

Farm name: Delbert Elder			Operator Well No.: Elder #1				
LOCATION: Elevation: 651' ASI			Quadrangle: Raven Rock 7.5'				
	Coun	ty: Pleasants					
Feet South of 81	Deg. 10	Min. 00	Sec.				
Feet West of 39	Deg. 25	Min. 00	Sec.				
	Feet South of 81	Quad Coun Feet South of 81 Deg. 10	1' ASI Quadrangle: Raven Rown County: Pleasants Feet South of 81 Deg. 10 Min. 00	Quadrangle: Raven Rock 7.5' County: Pleasants Feet South of 81 Deg. 10 Min. 00 Sec.			

Company: Sancho Oil & Gas				
Address: P. O. Box 179	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
St. Marys, WV 26170	8 5/8"	939	939	260 sks
Agent: Loren Bagley				
Inspector: Joe Taylor	4 1/2"		3871	700 sks
Date Permit Issued:				
Date Well Work Commenced: March 12, 2012				
Date Well Work Completed: March 31, 2012				
Verbal Plugging:			receive	
Date Permission granted on:		Offic	ce of Oll &	Gas
Rotary Cable Rig			FEB 2 1 201	
Total Vertical Depth (ft): 3872			LED # 1 COL	1
Total Measured Depth (ft): 3872		VAA	Departme	nt of
Fresh Water Depth (ft.): NA		Enviro	nmental P	otection
Salt Water Depth (ft.): Behind pipe Unknown		FILANC		
Is coal being mined in area (N/Y)? No Coal				
Coal Depths (ft.): No Coal Present			-	
Void(s) encountered (N/Y) Depth(s)				<u> </u>

OPEN FLOW DATA (If more than two producing formations please include additional data on separate she Producing formation Squaw Sandstone Pay zone depth (ft) 1528-1534	et)
Gas: Initial open flow 5 MCF/d Oil: Initial open flow 2 Bbl/d	
Final open flow 100 MCF/d Final open flow 10 Bbl/d	
Time of open flow between initial and final tests 72 Hours	
Static rock Pressure 350 psig (surface pressure) after 96 Hours	
Second producing formation Big Injun Sandstone Pay zone depth (ft) 1502-1520 Gas: Initial open flow see above MCF/d Oil: Initial open flow see above Bbl/d Final open flow see above MCF/d Final open flow see above Bbl/d Time of open flow between initial and final tests see above Hours	
Static rock Pressure see above psig (surface pressure) after see above Hours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

73.00982F

Were core samples taken? YesN	o_XX Were cuttings caug	ht during drilling? YesNoNo
Were Electrical, Mechanical or Geophysic	al logs recorded on this well? If yes, please l	ist Cased hole log only
FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECOR COAL ENCOUNTERED BY THE WE	PUT THE FOLLOWING: 1). DETAIL PHYSICAL CHANGE, ETC. 2). THE WE DO OF THE TOPS AND BOTTOMS OULLBORE FROM SURFACE TO TOTAL	ELL LOG WHICH IS A SYSTEMATIC OF ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stimul		the Saugu and Rig Injun
	d sufficient cement to re-complete in 26-1531. Frac job consisted of 5000 l	
	ed between 3200 and 3800 PSI. Top	
Fill. Dieak at 3000 FSI. Well treat	SG DELWEET 0200 and 0000 1 Oi. 10p	
Plug Back Details Including Plug Type ar	id Depth(s): solid plug set at 3001	
0 0 1.	2 V Solid plug cot at coc.	
Formations Encountered:	Top Depth /	Bottom Depth
Surface:		
Cow Run Sand	526	564
2nd Cow Run Sand	626	642
1st Salt Sand	742	810
2nd Salt Sand	904	951
3rd Salt Sand	1182	1266
Maxon Sandstone	1272	1297
Little Lime	1340	1350
Big Limestone	1372	1422
Keener Sandstone	1434	1472
Big Injun Sandstone	1490	1511
Squaw Sandstone	1517	1524

DATE: August 10, 2010 API #: 47-097-03712

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: James R. Moore, et al.	Ope	rator Well	lames R. Moore	#2 WV3013	
LOCATION: Elevation: 1835'	Quadra	ngle: <u>Rock (</u>	Cave 7.5		
District: Banks	County: <u>U</u>	lpshur_			
Latitude: 10.600' Feet South of 38 Deg. 50 Min. 00 Sec. Longitude 9,175' Feet West of 80 Deg. 15 Min. 00 Sec.					
Company: Seneca Upshur Petroleum Corp.					
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Address: P.O. Box 2048					
Buckhannon WV 26201	13 3/8"	32'	32'	Sand In	
Agent: James Turner					
Inspector: Bill Hatfield	9 5/8"	1203'	1203'	488 Cu. Ft.	
Date Permit Issued: February 03, 2010					
Date Well Work Commenced: March 10, 2010	4 1/2"	7020'	7020'	138 Cu. Ft.	
Date Well Work Completed: July 13, 2010					
Verbal Plugging:					
Date Permission granted on:					
Rotary X Cable Rig					
Total Depth (feet): 7030'					
Fresh Water Depth (ft.): 65'- 320'- 840'		-			
			ECEIVED		
Salt Water Depth (ft.): 1242'		A	e of Oil S	Gas	
		Onic	HOI OK 2	-	
Is coal being mined in area (N/Y)? N			20 2012		
Coal Depths (ft.): 378'-380', 395'-398', 502'-507', 595' OPEN FLOW DATA			FEB 2 0 2013		
Producing formation Marcellus Pay zone depth (ft) 6905'- Gas: Initial open flow 1500 MCF/d Oil: Initial open flow 0	Bbl/d bl/d	WV Enviror	Departme nmental Pr	nt of otection	

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed:

By: Take The Date: September 1997

1st Stage -Slick Water Frac, Perforations Marcellus 6954'-6990' (216 holes) 1000 gal. 15 % HCL, Breakdown 2755 psig, 4000 bbl pad 100,000 lbs 80/100 mesh sand, 500,904 lbs 40/70 mesh sand 14,000 bbls treated fluid, Avg. Rate 73 bpm, Avg. Treating Press. 4776 psi, ISDP 2115 psi

Production Tops

1190'-1261'
1294'-1417'
1408'-1504'
1506'-1536'
1544'-1866'
1882'-1940'
1949'-2053'
2109'-2138'
2446'-2468'
3176'-3243'
3504'-3552'
3730'-3748'
3867'-3885'
4414'-4442'
4476'-4546'
4683'-4705'
5242'-5280'
6230'-6247'
6763'-6800'
6800'-6820'
6905'-7002'
7022'

Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

45.02335

arm Name Heartwood Forestland Fund Well Number 511767 ocation Elevation 852 QUAD Mallory istrict Unknown County Logan, WV atitude 9200 Degree 37 Minutes 42 Seconds 30 W ongitude 8900 East Degree 81 Minutes 47 Seconds 30 ompany **EQT Plaza** 37.68308 Longitude **Suite 1700** 625 Liberty Avenue Latitude -81.82233 Pittsburgh, Pa 15222 Casing <u>Used In</u> Left in **Cement Cubic** Agent &Tubing **Drilling** Well EI Cecil Ray Size Inspector 13 3/8 36.00 36.00 **Tom Morris** 'ermit Issued 9 5/8 511.00 511.00 252.00 1/25/10 7 2081.00 2,081.00 470.60 **Iell Work Commenced** 6/2/2010 4 1/2 7127.22 7,127.22 ieli Work Completed 8/18/2010 erbal Plugging RECEIVED Office of Oil & Gas .otary Rig X Rotary Rig otal Depth TVD: 4124 MD: 7,165.00 FEB 2 1 2013 WV Department of Environmental Protection <u>Type</u> **From** <u>Type</u> From Coal 83.00 ft. -85.00 ft. Fresh Water 83.00 133.00 ft. -135.00 Coal Fresh Water 120.00 **Producting Formation** Gas: Initial Open 94 Flow

NOTE: On back of this form put the following

1708

650

Final Open Flow

Static Rock Pressure

1) Details of Perforated intervals, fracturing or stimulating, physical change, etc.

2) The well log, a systematic detailed geological record of all formations including coal encountered in the well bore

Formation record

Gas Tests

ormation Name	<u>Top</u>	Bottom	Thickness	Depth Gas	Comments
AND AND SHALE	0.00	83.00	83.00	2,486.00	0
:OAL	83.00	85.00	2.00	2,675.00	0
AND AND SHALE	85.00	133.00	48.00	3,060.00	0
:OAL	133.00	135.00	2.00	3.472.00	0
AND AND SHALE	135.00	559.00	424.00	4,255.00	0 Odor
ALT SAND	559.40	1,198.00	638.60	7,165.00	94 5/10 thru 2"
'AVENCLIFF SAND	1,268.00	1,328.00	60.00		
IPPER MAXTON SAND	1,448.00	1,613.00	165.00		
(IDDLE MAXTON SAND	1,688.00	1,830.00	142.00		
OWER MAXTON SAND	1,938.00	1,979.00	41.00		
ITTLE LIME	2,022.00	2,078.00	56.00		
SIG LIME	2,094.00	2,430.00	336.00		
VEIR SAND	2,516.00	2,631.00	115.00		
JUNBURY	2,956.00	2,980.00	24.00		
IEREA SAND	2,980.00	3,014.00	34.00		
JPPER DEVONIAN	3,015.25				
3ORDON SAND	3,288.00	3,318.00	30.00		
OWER HURON SHALE	4,054.00	4.516.00	462.00		
.HURON SILTSTONE	4,066.00	4,138.00	72.00		
AVA SHALE	4,516.00	4,670.00	154.00		
WGOLA SHALE	4,670.00	4,902.00	232.00		R
RHINESTREET SHALE	4,902.00				Office

RECEIVED
Office of Oil & Gas

FEB 2 1 2013

WV Department of Environmental Drotection

Questions regarding formations can be directed to Jonette Speranzo. Jsperanzo@eqt.com

.11		475
41	-())	335
10	00	000

Stage	Formation	Frac Type			AMAZON AMASON AND AND AND AND AND AND AND AND AND AN
1	LOWER HURON SILT	N²			45.02335
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	6965 - 7127		4,953.00	4,985.00	5 Min:
					40 Min
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 15 Min:
102,319.00	5,093.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
		1,002,646.00	7,5,2 52.		
Stage	Formation	Frac Type		GOYER SEE ST	
2	LOWER HURON SILT	N ²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	6724 - 6965		3,452.00	4,948.00	5 Min:
Avg Rate 105,011.00	Max Press PSI 4,999.00	ISIP	Frac Gradient		10 Min: RECEIVED 15 Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		FEB 2 1 2013
	5.80	1,003,078.00			WV Department of
Stage	Formation	Frac Type			mvire-mental Protection
. 3		N ²			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/10/2010	6483 - 6724		3,259.00	4,940.00	5 Min:
					10 Min:
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:
104,378.00	4,972.00				
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
-turny representation (500,000 € - € 1.00,000 €	5.90	1,002,343.00			
			TENED BY STATE	Total American	

		#				
Stage	Formation	Frac Type	***************************************		authoridate de Visione.	45.02.335
4	LOWER HURON SILT	N ²				102300
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	- Marie
8/10/2010	6242 - 6483		3,285.00	4,839.00	5 Min:	
Avg Rate	Max Press PSI	ISID	Frac Gradient		10 Min:	
104,639.00	4,859.00	1017	riac Gradient		15 Min:	
104,055.00	4,038.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.60	1,002,202.00				
Stage	Formation	Frac Type				
5		N ²				
	SILT					
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5957 - 6242		3,341.00	4,826.00	5 Min: 1714	
Avg Rate	Max Press PSI	lein	Frac Gradient		10 Min: 15 Min:	
103,409.00	4,845.00	2,362.00	0.667		15 Mill.	RECEIVED
103,409.00	4,043.00	2,302.00	0.007			Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.90	1,004,054.00				FEB 2 1 2013
Stage	Formation	Frac Type				WV Department of
6	LOWER HURON	N ²			Env	iranmental Dratection
	SILT					
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5716 - 5957		3,345.00	5,007.00	5 Min:	
					40.00	
Ava Pata	Max Press PSI	ISID	Frac Gradient		10 Min: 15 Min:	
Avg Rate 102,405.00		2,430.00			TO IVIIII.	
102,403.00	3,101.00	2,430,00	0,000			
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.70	1,001,538.00				
				the support of the second		

				Function of the second	Service State of the Service of the	
Stage	Formation	Frac Type			de la companya de la	<u>,</u>
7	LOWER HURON SILT	N²				45.02335
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5477 - 5716		3,367.00		5 Min:	
			©			
A D. 6	88 - B - BOI	1015			10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
104,836.00	4,970.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.10	1,000,335.00				
Stage	Formation	Frac Type				
8	LOWER HURON	N ²				
Ü	SILT	IV.				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	5236 - 5477		3,388.00	5,625.00	5 Min:	
Ave Dete	Max Press PSI	ICID	Frac Gradient		10 Min: 15 Min:	
Avg Rate		1511	Frac Gradient		15 WIII.	RECEIVED
106,860.00	5,667.00					Office of Oil & Gas
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	. 6.00	1,003,458.00				FEB 2 1 2013
Stage	Formation	Frac Type				WV Department of
9		N²			En	vironmental Dentection
	SILT					
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4995 - 5236		3,469.00	6,113.00	5 Min:	
					10 Min:	
Avg Rate	Max Press PSI	ISID	Frac Gradient		15 Min:	
107,498.00		1011	rac Oracicii		TO WINT.	
107,430.00	0,100.00					
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.80	1,002,465.00				

Stage	Formation	Frac Type				
10	LOWER HURON SILT	N ²				45.02335
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4755 - 4995		3,513.00	6,243.00	5 Min: 1892	
			****	,	0 171171. 1002	
A D					10 Min:	
Avg Rate	Max Press PSI		Frac Gradient		15 Min:	
101,996.00	6,380.00	3,370.00	0.951			
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	6.00	1,002,697.00	71014 041			
Stage	Formation	Frac Type				_
11	LOWER HURON SILT	N²				
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	
8/10/2010	4514 - 4755		3,524.00	4,994.00	5 Min:	
		100000000000000000000000000000000000000			10 Min:	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min:	
103,103.00	5,088.00					FA FILL CO. THE R. C. C.
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		6	RECEIVED
	5.50	1,001,438.00			Ų	Office of Oil & Gas
e dia 1995 il Nobello			4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			FEB 2 1 2013
Stage	Formation	Frac Type				
12	LOWER HURON SILT	N²			Envi	WV Department of
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail	1011
8/10/2010	4229 - 4514		3,327.00	4,488.00	5 Min: 1600	
					10 Min: 1552	
Avg Rate	Max Press PSI		Frac Gradient		15 Min: 1523	
103,109.00	4,589.00	2,137.00	0.604		3	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal			
	5.30	1,002,602.00				
					M	

Date: _

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

DATE: 11/21/2008 API#: 47-051-01099

Farm name: BERTHA & H.F. CROW	Оре	rator Well No	D.:MC-44A	
LOCATION: Elevation: 1225.98'	Qua	drangle: C	ameron,wv-	PA 7.5°
District: CAMERON				11110
Latitude: 1,834° Feet South of	30 Dec	inty: MARS	HIALL	
Longitude: 4,936' Feet V	Vest of 80	Dec 36	Min 02 51	Sec.
Company: CNX Gas Company, LLC				Sec.
	Casing & Tubing	Used in drilling	Left in well	Cement Fill Up (# of Sacks)
Address: 2481 John Nash BLVD	9 5/8"	41'	41'	SANDED IN
Bluefield Wv 24701	7"	530.2'	530.2'	95 SKS
Agent: Les Arrington				
Inspector: Bill Hatfield				
Date Permit Issued: 02/29/2008				
Date Well Work Commenced: 3/31/2008				
Date Well Work Completed: 4/03/2008				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 860'				
Fresh Water Depth (ft.):300'				
C I WE A STATE OF THE STATE OF				
Salt Water Depth (ft.): N/A				
T 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.):				
OPEN FLOW DATA				
Producing formation <u>Pittsburgh C</u>	OAT STARE	dom	th (A) 051, 06	n;
Gas: Initial open flow MCF/o	Orle District one	n flow	DP1/9 074 -90	<u> </u>
Final open flow MCF/d	Final anan flass	woп п	D01/Q	
Time of open flow between initial and	final open now	D	- -	
Time of open flow between initial and	mai tests	Hour	5	
Static rock Pressure psig (surfa	ice pressure) arti	erHo	urs	
Second producing formation	D	alamata (O)		
-	Initial open flo	e depth (ft)	1.1/1	
• • • • • • • • • • • • • • • • • • •			bl/d	
•	Final open flow		bl/d	
Time of open flow between initial and s Static rock Pressure psig (surfa		Hours		
Static rock Pressurepsig (surfa	ce pressure) afte	erHo	urs	. <u>N</u>
NOTE: ON BACK OF THIS FORM PUT THE	FOLLOWING:	I) DETAILS	OF DEDEOD AT	ED
INTERVALS, FRACTURING OR STIMULATI	NG PHYSICAT	CHANGE F	TO TERTORAL	עט עט
LOG WHICH IS A SYSTEMATIC DETAILED	GEOLOGICAL	RECORD O	F ALL FORMAT	TIONS
INCLUDING COAL ENCOUNTERED BY THE	WELLBORE		LLL I OIGHT!	.101.0,
Gas Well DOE MC-44A (API No. 47-05		horizontal v	well for CNX	Gas
Company, LLC. Refer to the attached				
1 A		************************************	V. ERRORGIUM	••
Signed: AAM				
By: Luke Beebe, Drilling Manager		_		

ATTACHMENT A

Marshall County CBM Well No. MC-44A PG Drill Log API #47-051-01099

	7
Depth	Description
5′-10′	FILL
10'-25'	SHALE
25'-35'	SAND
35'-45'	SHALE
45'-155'	R.R
155'-270'	SHALE
270'-395'	SAND
395'-510'-513'	COAL
510'-513'-520'	SAND
520'-540'-542'	COAL
540'-542'-550'	SHALE

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

DATE: 11/21/2008 API#: 47-5101122

LOCATION: Elevation: 11	<u>-</u>				WW_IP	'A 7.5'		
Postrict: Liber	RTY	47. 4	_ Cou	nty: MA	RSH	ALL		_
Lautude: <u>2,852</u>	Feet Sou	th of	397	Deg.	47	Min.	02.68	Sec.
Company: <u>CNX Gas Company</u>	Feet We	st of _	80'	Deg	35'	IMIR	39.95	Sec.
Company. CNA Gas Comp.	any, elec	Cosin	~ 0	XI	Ī	T -C4 !	ns _	Laura de Maria et
		Casin; Tubin		Used in		Left in we	1	ement Fill Up
Address: 2481 John Nash BI	Willia		5/8"	drilling 31.2		31.2	- 10	of Sacks)
Bluefield Wv 24701	74 III	95		351.2		351.1	-	SAND IN
Agent: Les Arrington		7	"	1056.	0,	1056.8		130 SKS
Inspector: Bill Hatfield				1030.	0	1030.8		90 SKS
Date Permit Issued: 05/02/20	<u> </u>				-			
Date Well Work Commenced								
							-	
Date Well Work Completed:	0/23/08							
Verbal Plugging:								
Date Permission granted on:								
Rotary Cable	Rig							
Total Depth (feet): 1110'								
Fresh Water Depth (ft.): 30	0,							
Salt Water Depth (ft.): N/A								
Is coal being mined in area (I	₹/Y)? No							
Coal Depths (ft.):								
OPEN FLOW DATA								
	n <u>Pittsburgh C</u>						32°-83	<u> </u>
Gas: Initial open flow	MCF/d (Oil: Init	ial oper	n flow		_Bbl/d		
Final open flow	MCF/d Fi	nal ope	n flow		Bb	1/d		
Time of open flow	between initial and fir	nal tests	3		lours			
Static rock Pressure_	nsig (surface	e pressu	re) afte	er	Hom	rs		
		- p-0000		<u> </u>				
Second producing form	nation	p,	3V 70116	denth (f	71			
Gas: Initial open flow	MCE/4 Oil: I	nitial o	nen flor	o dopai (i	Ph	1/4		
Final open flow	MCF/d On Fi	muai oj	pcn 110	··	Bb	1/J		
Time of one form	WCF/U FI	nai ope.	шиом		DU.	ı/u		
Time of open now	between initial and fir	iai tests	<u> </u>		lours			
Static rock Pressure_	psig (surface	e pressu	re) atte	er	_Hou	rs	λ	, .
NOTE, ON DACK OF TH		.01.1.01	mro ·	1) DEC.	т с с	e pereor	4	
NOTE: ON BACK OF THI INTERVALS, FRACTURIN								
LOG WHICH IS A SYSTE								
INCLUDING COAL ENCO				L KECUK	D OF	ALL FURI	MATIC	175,
				4c#-	_DE P_	- CETEL C		
Gas Well DOE MC-6(A							es Col	npany,
LLC. Refer to the atta		for ad	dition	al infor	matic	or.		
	m			_				
•	Orilling Manager			_				
Date:2/4/]	.3			_				

ATTACHMENT A

Marshall County CBM Well No. MC-6 Drill Log API #47-5101122

Depth	Description					
0	GL					
0-6	FILL					
6-10	CLAY					
10-15	LOOSE SHALE					
15-22	SHALE					
22-28	SAND					
28-70	SHALE					
70-175	SAND & SHALE					
175-320	SAND					
320-425	SHALE					
425-575	RR					
575-690	SAND					
690-832-837	PPG COAL					
832-837-950	SAND					
950-985	RR					
985-1110	SHALE					

State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE: 11/21/2008___ API #: 47-5101123____

Farm name: GRAY DOBBS Operator We			DA 5.5	
LOCATION: Elevation: <u>1162.65</u> Quadra			-PA 7.5	
District: LIBERTY Cour				~
Latitude: 3091 Feet South of				
Longitude: 3445 Feet V	West of 80	Deg. <u>35</u>	Min	42.92
Sec.				
Company: CNX Gas Company, LLC	Casing &	Used in	Left in well	Cement Fill Up
	Tubing	drilling	Deit in wen	(# of Sacks)
Address: 2481 John Nash BLVD	9 5/8"	42.0	42.0	SANDED IN
Bluefield Wv 24701	7"	531.4	531.4	100 SKS
Agent: Les Arrington	 	331.4	331.4	TOO BIRD
Inspector: Bill Hatfield		-		
Date Permit Issued: 5/02/2008			-	
Date Well Work Commenced: 5/29/2008		 		
Date Well Work Completed: 6/23/2008	<u> </u>		1	
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 837'				
Fresh Water Depth (ft.): 300'				
Tiesh Water Depair (14). 000		1		
Salt Water Depth (ft.): N/A				
Just Water Depth (10): 11/12				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.):		<u></u>	<u> </u>	
OPEN FLOW DATA				
Producing formation Pittsburgh	COAL SEAM	dep	th (ft)832'	<u>-837°</u>
Gas: Initial open flow MCF	/d Oil: Initial op	en flow	Bbl/d	
Final open flow MCF/d	Final open flov	v B	BbI/d	
Time of open flow between initial and	d final tests	Hour	S	
Static rock Pressurepsig (sur	face pressure) at	iter Ho	ours	
	. ,			
Second producing formation	Pay zoi	ne depth (ft)		
	il: Initial open fl	<u> </u>	Bbl/d	
Final open flow MCF/d	Final open flov		bl/d	,
Time of open flow between initial and		Hour		
Static rock Pressure psig (sur			urs ੂੰ	70
buttle room recognitepusy (sur	-ucc processo,			<i>`</i> `
NOTE: ON BACK OF THIS FORM PUT TH	E FOLLOWING	: 1). DETAILS	OF PERFORA	TED No 1
INTERVALS, FRACTURING OR STIMULA'	TING, PHYSICA	L CHANGE,	ETC. 2), THE W	EPf / Yell
LOG WHICH IS A SYSTEMATIC DETAILE	ED GEOLOGICA	L RECORD (OF ALEX FORMA	,THONS, 💍 న్రో
INCLUDING COAL ENCOUNTERED BY TH	TE WELLBORE		O, %	
Gas Well DOE MH-13 (API No. 47-61	101560) is a ho	orizontal wel	l for CNX Ga	is Company,
LLC. Refer to the attached informati	on for additio	nal informa	tion. s	1 100
Signed: July			T,	40C,
Gas Well DOE MH-13 (API No. 47-61 LLC. Refer to the attached informati Signed: By: Luke Beebe Drilling Manager			25	is.
Date: 2/4/13			., •	

ATTACHMENT A

Marshall County CBM Well No. MC-6A Drill Log API #47-5101123

Depth	Description
5-10	DIRT & FILL
10-15	CLAY
15-35	SAND
35-45	SHALE
45-100	RR
100-175	SAND
175-305	SHALE
305-490	SAND
490-525	SHALE

DATE: 10/21/2011____ API #: 47-5101174____

State of West Virginia Department of Environmental Protection Office of Oil and Gas

LOCATION:	Elevati	on: <u>1330.62</u>		Qua	drangle:	Car	neron	
District: Li	berty			Cou	nty: Ma	arshal	l	
Latitude:	39	Feet South of 50	Deg.	00	Min.		Sec.	
Longitude: _	80	Feet West of	30	Deg.	00	Min.		Sec.
Сошрапу: <u>С</u>	NX Gas	Company, LLC	Casi	ng & ing	Used in	1	Left in well	Cement Fill Up (# of Sacks)
Address: 2481	John N	ash BLVD	13	3/8"		2	41'	Sanded In
Bluefield Wv 2				5/8"			350'	130 sks 3% Ca
								Chloride
Agent: Les Ar	rington			7"			1154.70'	100 SKS STD 3 % CAL CHL.
Inspector: Bill	Hender	shot						
Date Permit Is								
Date Well Wo	rk Com	menced: 2/9/09						
Date Well Wo	rk Com	pleted: 2/12/09						
Verbal Pluggi	ng:							
Date Permission	on grant	ed on:						
Rotary	Cable	ed on:						
Total Depth	(feet):	180° 180° 213°						
Fresh Water								
Salt Water D	epth (ft.): N/A						
							·	
Is coal being n	nined in	area (N/Y)? No						
Coal Depths (f	ft.): 821,	923'		-				
OPEN FLO	W DATA	4						
Prod	ucing fo	ormation <u>Pittsburgh</u>		depth	(ft)9	23'_		
Gas: In	itial ope	n flow MCF/d	Oil: In	itial ope	n flow_		Bbl/d	
		lowMCF/d F						
		n flow between initial and						
Static r	ock Pre	ssurepsig (surfac	ce pres	sure) af	ter	Hot	ırs	
			-					
Second	produc	ing formation		Pay zor	ne depth	(ft)		
Gas: In	itial ope	n flowMCF/d Oil:	Initia	open fl	ow	E	Bbl/d	
				pen flow		B	bl/d	
	•	n flow between initial and		•		Hour	S . 🚼	
	-	ssure psig (surface				Hoi		
2 3332 5			•			_		
NOTE: ON	BACK (OF THIS FORM PUT THE	FOLLO	WING:	1). DET.	AILS (OF PERFORAT	ΈD
		CTURING OR STIMULATII						
		SYSTEMATIC DETAILED			L RECOR	D OF	FALL FORMA	TIONS,
		LENCOUNTERED BY THE						
Gas Well	DOE	MC22 (API No. 47-510)	174)	is a hor	rizontal	well	for CNX Ga	s Company,
LLC. Re	fer to t	he attached information					ion.	
çia	med By:	4AW	District	- Drilli	ne Man	ages		
Sig	te:	87.1010			-∨-	U -		

Attachment A

Marshall County CBM well No. MC-22 Drill Log

API #47-051-01174

Depth	Description
0′-6′	Fill
6'-20'	Clay
20'-25'	Loose Shale
25'-31'	Shale
31′-38′	Sand & Shale
38'-140'	Sand
140'-200'	Sand & Shale
200'-260'	Sand
260'-375'	Shale
375'-460'	Sand & Shale
460'-810'	Sand
810'-900'	Sand & Shale
900'-927'	Pitt. Coal
927'-933'	Shale
933'-970'	Sand & Shale
970'-1110'	Shale
1180′	TD

DATE: June 19, 2012 API #: 47-051-01407

WJP

State of West Virginia Department of Environmental Protection Office of Oil and Gas

Farm name: HAZLETT, FREDERICK S.	C	perator Well N	o.: <u>SHL-1E-HS</u>		
LOCATION: Elevation 1168.09'	Qua	drangle: M	AJORSVILLE		
District: SANDUILI County	MAD	CUALI			
District: <u>SANDHILL</u> County Latitude: <u>Feet South of 39 D</u>	lea 58 Mi	n 24.20 Sec			
LongitudeFeet West of80 D	eg. <u>34</u> Mir	n. <u>29.60</u> Sec			
Company:					
CNX Gas Company LLC	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Address: 200 Evergreene Drive					
Waynesburg, PA 15370					
Agent: Tim Rinehart	1				
Inspector: Bill Hendershot					
Date Permit Issued: 01/24/2011					
Date Well Work Commenced: 01/26/2011	30"	39'	39'	Grouted in	
Date Well Work Completed: 10/08/11					
Verbal Plugging N/A	13 3/8"	1007'	1007'	665 sks	
Date Permission granted on: 01/26/2011					
Rotary Cable Rig X	9 5/8"	2960'	2960'	940 sks	
Total Depth (feet): 10,010' 6530' TVD	5 1/2"	9,987'	9,987'	1,577 sks	
Fresh Water Depth (ft.): 200'	·			<u> </u>	
		_	<u></u>		
Salt Water Depth (ft.):					
T			_		
Is coal being mined in area (N/Y)? Yes	 	-	 		
Coal Depths (ft.) <u>652'-658'</u>	1	1	ŀ	ŀ	
OPEN FLOW DATA					
Producing formation Marcellus	Par	y zone depth (ft) 6,465'		
Gas: Initial open flow N/A	MCF/d Oil:	Initial open flo	ow N/A	Bbl/d	
Final open flow N/A MCF/d					
Time of open flow between initial and					
Static rock Pressure 1900 psig (surfa				•	
	. ,		•		
Second producing formation N/A Pa	av zone depth	(ft) N/A			
	Oil: Initial op		N/A Bbl/d		
Final open flow N/A MCF/d Final open flow N/A Bbl/d					
Time of open flow between initial and	•	N/A	Hours		
▲	surface pressu		/A Hours		
*Commingled with previous formations	Juliuse pressu				
NOTE: ON BACK OF THIS FORM PUT THE	FOLLOWING	: 1). DETAILS	OF PERFORAT	ED	
INTERVALS, FRACTURING OR STIMULATI	NG, PHYSICA	AL CHANGE,	ETC. 2). THE W	ELL	
LOG WHICH IS A SYSTEMATIC DETAILED	GEOLOGICA	AL RECORD (OF ALL FORMA	TIONS,	
INCLUDING COAL ENCOUNTERED BY THE	WELLBORE.				
Signed:	_a				
By: // 02-19-201	.>				
Date:					

WR-35 Rev (5-01)

WELL: 47-051-01407

Page 2 of 2

Were core samples taken? Yes / No Were cuttings caught during drilling? Yes / No

Were Electrical Yes / No, Mechanical Yes / No, or Geophysical logs Yes / No recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING:

1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR

PHYSICAL CHANGE, ETC.

2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

PERFORATED INTERVALS, FRACTURING, OR STIMULATING:

FORMATIONS ENCOUNTERED:

GAMMA RAY /FORMATION TOPS

FORMATION

<u>TOP</u>

BASE

Depths Determined By Drillers Log

Driller's Log				
Depth	Formation			
0'-15'	Fill			
15'-150'	Shale			
150'-652'	Shale/Sand			
652'658'	Coal			
658'-762'	Shale/Sand			
762'-1013'	Red Rock			
1013'-1249'	Shale			
1249'-1377'	Shale/Sand			
1377'-1408'	Shale/Lime			
1408'-1502'	Shale/Sand			
1502'-1659'	Sand			
1659'-1721'	Sand/Lime			
1721'-1782'	Sand/Shale/Lime			
1782'-1847'	Sand			
1847'-2003'	Shale/Sand			
2003'-2097'	Shale/Lime			
2097'-2253'	Sand/Shale/Lime			
2253'-2284'	Sand/Shale/Lime			
2284'-2378'	Sand/Lime/Silt			
2378'-2473'	Red Rock/Shale			
2473'-2505'	Red Rock/Shale			
2505'-2599'	Shale/Lime			
2599'-2694'	Sand/Shale/Lime			
2694'-2820'	Sand/Shale/Silt			
2820'-2946'	Shale/Lime			
2946'-3027'	Sand/Shale/Silt			
3027'-3500'	Sand/Silt			





Geological Top Estimations

Well (Pad) Name Datum (GR)	SHL01 pad 1163		
	TVD	S.L.	
Gas Sand Top	1262	-99	
Gas Sand Base	1326	-163	
1st Salt Sand Top	1358	-195	
1st Salt Sand Base	1366	-203	and the second setting of the
2nd Salt Sand Top	1463	-300	The salt sands could possibly
2nd Salt Sand Base	1518	-355	be a fluid thief zone
3rd Salt Sand Top	1551	-388	
3rd Salt Sand Base	1592	-429	
Maxton Top	1613	-450	
Maxton Base	1693	-530	
Big Lime Top	1697	-534	
Big Injun Top	1730	-567	
Big Injun Base	1916	-753	
Berea Top	2212	-1049	
Berea Base	2229	-1066	
Gantz Top	2265	-1102	
Gantz Base	2313	-1150	
Gordon Top	2631	-1468	
Gordon Base	2649	-1486	
Fifth Top	2741	-1578	
Fifth Base	2772	-1609	
Burkett Shale	6302	-5139	
Tully Top	6310	-5147	
Hamilton Top	6343	-5180	
Marcellus	~6449	-5286	
Onondaga	~6508	-5345	

TVD: ~6530

JUN 23.7 3